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Foreign Direct Investment in the United States: An Update

Review and Analysis of Current Developments

A Report to the U.S. Congress in Response to Section 3(a) of the Foreign Direct Investment and International Financial Data Improvements Act of 1990.

U.S. Department of Commerce
Economics and Statistics Administration
Office of the Chief Economist
June 1993

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A Report Submitted to the Committee on Energy and Commerce, the Committee on Ways and Means, and the Committee on Foreign Affairs of the House of Representatives, to the Committee on Finance, the Committee on Commerce, Science and Transportation, and the Committee on Foreign Relations of the Senate, and to the Joint Economic Committee of the Congress in Response to Section 3(a) of the Foreign Direct Investment and International Financial Data Improvements Act of 1990.

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FOREIGN DIRECT INVESTMENT IN THE UNITED STATES: AN UPDATE

-- Review and Analysis of Current Developments

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I

Introduction and Key Findings

*by Sumiye Okubo McGuire**

The rapid pace and magnitude of foreign direct investment in the United States (FDIUS) during the 1980s raised public concerns about the impact, positive or negative, of this investment on the U.S. economy. Flows of FDIUS slowed in the 1990s, as did the wide publicity previously devoted to FDIUS. Nonetheless, questions about the significance and effect of FDIUS on the U.S. economy remain.

This second Department of Commerce report on foreign direct investment in the United States responds to the Foreign Direct Investment and International Financial Data Improvements Act of 1990. That law seeks to improve the information provided by the federal government on the significance of foreign direct investment in the United States. The law also requires the Bureau of Economic Analysis (BEA) to exchange confidential data on foreign direct investment in the United States with the Bureau of the Census and the Bureau of Labor Statistics (BLS), and the Bureau of Census to share its data with BEA, in order to improve U.S. government data on foreign direct investment.

The first report in this series was published in August 1991. It reviewed definitions and measurement issues, the macroeconomic and microeconomic theory of international investment -- both portfolio and direct -- and the planning of the BEA, Census, and BLS data link projects. The report analyzed the trends and patterns of foreign direct investment (FDI) in the United States compared to that in other countries, and FDI's role in and impact on the U.S. economy. It provided an overview of the characteristics and performance of U.S. affiliates of foreign firms, in general, and in five key sectors -- electronics, automobiles, steel, chemicals, and banking -- in which foreign ownership was significantly large.

Objectives of the Study

This second report updates information provided in the first report on FDIUS, and examines three key issues -- trade, technology, and taxes -- that have been widely and publicly raised about FDIUS. The study first reviews recent developments in direct investment in major world economies. It examines recent trends in the flows of foreign direct investment into the United States through 1991, and recent operations of nonbank and bank U.S. affiliates of foreign firms. The study analyzes newly available data from the BEA-Census data link and the BEA-BLS link project [1] that provides the basis for more in-depth analyses of affiliates' activities in specific industries. The report addresses questions about the impact of U.S. affiliates on U.S. trade performance and on U.S. technological developments and transfer. The study also examines the extent to which foreign-controlled companies shift their income away from the United States through transfer pricing practices. Also included in this report are a brief survey of recent non-government, analytical literature on this subject, and a large collection of statistical tables on foreign direct investment in the United States.

What is Foreign Direct Investment?

There are two types of private foreign investment -- direct and portfolio. Foreign investment in the United States is classified as foreign direct investment when ownership, directly or indirectly, by a foreign person or business amounts to 10 percent or more of the voting securities of an incorporated U.S. business enterprise, or an equivalent interest in an unincorporated U.S. business enterprise. A 10 percent or more equity interest is considered evidence of a long-term interest in, and a measure of influence over, the management of the company. Such an enterprise is a U.S. affiliate of a foreign firm (hereafter referred to as U.S. affiliate). The international transfer of capital is not necessary for direct investment. For example, a foreign corporation may acquire a partial or whole interest in a U.S. firm in exchange for technology or managerial know-how, and provide no financial capital. Also, the affiliate's financial capital may be provided by domestic or foreign financial institutions. [2]

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[1] The BEA-Census data link project links BEA's enterprise, or company, data for foreign-owned U.S. firms with the Census Bureau's establishment, or plant, data for all U.S. firms to obtain Census' detailed establishment data for the enterprises that report to BEA. The data published so far under this project cover the number, employment, payroll, and shipments or sales of the establishments of U.S. affiliates of foreign companies in 1987.

Key Findings

The study provides several important conclusions about the impact of foreign direct investment on the U.S. economy and its competitiveness.

- Foreign direct investment slowed down considerably in the 1990-92 period. The foreign-owned firms' share of the U.S. economy has stabilized after rapid increases in the 1980s.
- U.S. affiliates paid slightly higher wages (corrected for industry composition), and, partly because of their rising numbers, increased their total employment of U.S. workers slightly faster than U.S.-owned firms.
- U.S. affiliates' share of the U.S. trade imbalance rose sharply in the 1980s.
- Their share of U.S. high-technology industries is small though rising, and they are slightly more concentrated in high-technology industries than are U.S.-owned firms. They have contributed to U.S. technological capability and development.
- Foreign-owned corporations, as a group, had lower taxable incomes relative to revenues and assets than corporate U.S. firms. At least half of the difference can be attributed to seven factors other than income shifting and transfer pricing. But other non-tax avoidance actions, not evaluated in the study, may also play a role.

Assessments of these issues are summarized in this section, and discussed more fully in the following chapters.

Changes in International Direct Investment

World-wide foreign direct investment flows expanded rapidly during the 1980s, outpacing the growth rate of world trade, and became a major vehicle for world economic integration. Most of the increase occurred in the second half of the 1980s, and most of the FDI flows were among developed countries. A major share of the surge in world inflows during the second half of the 1980s was accounted for by rising inflows into EC countries from each other, as well as from other European countries, the United States, and Japan. More than 70 percent of the surge in outflows during the 1980s was from the EC countries and Japan. Total global FDI flows peaked in 1989-90 and dropped sharply in 1991. Aggregate European outflows and inflows continued to rise through 1990 and then declined in 1991. Japanese outflows also peaked in 1990, and then fell off sharply. U.S. inflows fell significantly in 1990, and by 1992, became negative, resulting in net disinvestment. In contrast, U.S. outflows rose strongly between 1990 and 1992.

The major reasons for expansion and subsequent decline in investment flows include macroeconomic conditions, advances in telecommunications technology, liberalization of capital markets worldwide, and the desire to retain or gain access to markets. But, the absolute or relative importance of these factors as past or future determinants of FDI flows cannot be measured with certainty.

Macroeconomic Conditions. Sustained trade imbalances during the 1980s, driven in part by savings imbalances, led to exchange rate changes that lowered U.S. asset values in terms of foreign currencies, and raised the attractiveness of investment in the United States. The relatively rapid economic growth in the United States also attracted large foreign direct investment inflows. As a result, international investment flows -- both portfolio and direct -- surged into the United States.

The circumstances that led to sizable inflows of FDI to the United States and worldwide began to change in the late 1980s. These changes were reflected in the declines in flows of worldwide direct investment, especially to the United States. By 1989, macroeconomic conditions began to change in Germany, as the unification process sharply raised the domestic German demand for investment funds, and in Japan, as the major decline in the values of stocks and real estate led to significant reductions in the Japanese banks' capital base and therefore their lending ability. The growth of the U.S. economy, too, was slowing down in 1989 and turned negative in 1990, and attractive U.S. investment opportunities rapidly diminished.

Advances in Technology. Advances in telecommunications technology in the mid-1980s encouraged world direct investment flows. They greatly enhanced firms' ability to control and manage production and distribution around the globe, and enabled financial institutions to retain links with other lenders and borrowers around the clock.

Liberalization of Capital Markets. During the 1980s, deregulation of financial markets and decontrol of capital flows greatly facilitated cross-border investment. These developments occurred in industrial economies, including the United States, the United Kingdom, Japan, France, and Italy, and in developing nations that are moving towards market economies. The relatively more open investment climate, coupled with its large market size, contributed to the United States becoming a major recipient of international direct investment flows.

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[2] For further explanation, see the Glossary of Foreign DirectTerms, Appendix A, at the end of this report.

Market Access. Foreign direct investment is often used by multinational corporations to circumvent barriers to market entry. For example, foreign investments were apparently made in the U.S. auto and steel industries in the 1980s, partly to avoid U.S. trade restrictions that limited U.S. imports from Japanese firms. Similarly, between 1989 to 1991, much of the foreign direct investment by the U.S. and Japanese multinationals in Europe were made to ensure access to the large European Community before creation of the Single European Market at the end of 1992. Foreign direct investment also enabled foreign firms to exploit special advantages, such as lower capital cost, advanced technology, and better quality control, and to improve service to a market.

Despite the slowdown in FDI inflows into the United States in 1990-1992, it continues to hold the largest share of the world's inward direct investment stock. In 1990, the U.S. share remained twice as large as the next largest recipient -- the United Kingdom (24 percent versus 12 percent). The United States is also still the world's largest holder of outward foreign direct investment stock.

Growing Economic Importance of U.S. Affiliates

The recent rapid rise in FDIUS is reflected in its rising share of total U.S. net national worth. This share more than doubled from 1.2 percent in 1980 to 2.7 percent in 1991. However, this share is far smaller than in all other major industrial countries, except Japan.

The FDI flows into the United States have been broadly based across most U.S. industrial sectors and across the main FDI source countries. Between 1985 and 1991, however, the composition of FDIUS changed. Shares in wholesaling, petroleum, and real estate fell, and investment shares rose in manufacturing, finance and insurance, and other industries (other services and mining), suggesting a gradual evolution from marketing and distribution to production of goods and services. Within manufacturing, the composition of FDIUS changed little between 1985 and 1991.

Among the major investing countries in the United States, between 1985 and 1991, Japan and France showed significant increases in their share of total direct investment stock in the United States. Japan's share more than doubled, and France raised its share by more than 50 percent. The United Kingdom had a small increase in its share. The other major investing countries, the Netherlands, Germany, and Canada, showed declines in their shares of total FDIUS.

The 1990-91 U.S. economic recession slowed the growth of the operations of both U.S.-owned firms and foreign-owned firms, and reduced their profitability. The size of the total operations of foreign-owned firms in the United States grew, mostly through acquisitions of existing U.S. firms and establishment of new affiliates, rather than through expanded operations of existing ones. U.S. affiliates, however, remain a small share of the U.S. economy as a whole, but are important in the U.S. international trade sector and in certain key market niches. According to the BEA-Census data link project, U.S. affiliates account for 4 percent of the employment in all U.S. nonbank businesses and 7 percent of manufacturing employment.

U.S. affiliates have in general contributed to the U.S. economy, providing employment to 4.7 million Americans in 1990. They have substantially increased spending on plant and equipment and for research and development, and raised their share of total value added and employment, albeit mostly through acquisitions and new establishments rather than expansion of existing affiliates. Their employment rose more quickly in some sectors, particularly in the coal and petroleum products industry and in the chemicals industry. They resemble U.S.-owned firms, but tend to be more externally oriented, and report lower profits and thus, lower tax payments.

- Foreign-owned firms accounted for substantial shares of sales and employment in capital-intensive industries and mining.

- U.S. affiliates, especially Japanese-owned affiliates, invested more in plant and equipment per dollar of value added.

- Rising value added of foreign-owned firms over the past decade has narrowed the differential in value added per employee between U.S.- and foreign-owned firms.

- European, Canadian, and Japanese firms were the major owners of affiliates, producing almost 90 percent of total value added by affiliates in 1990. European-owned firms had 58 percent of the total. Japanese affiliates doubled their share of value added, from 7 percent in 1980 to 14 percent by 1990.

- U.S. affiliates' ratio of value added to imports rose from 18 percent in 1980 to 40 percent in 1990, reflecting a higher domestic content share of output. Domestic content rose from 81 percent in 1987 to 85 percent by 1990. This shift was partly due to rising investment in manufacturing versus wholesaling.

- Their reported average profits have been lower than those of U.S.-owned firms, peaking at $12 billion in 1988, and in 1990, averaging a net loss. Sixty percent of this loss was that reported by new affiliates of French, Swedish, and Japanese firms in manufacturing, transportation services, and wholesale trade.

Growth of foreign direct investment in the banking industry showed a pattern similar to that in the nonbank sector. Asset growth by foreign-owned banks slowed in 1990-91, after registering double-digit annual growth rates since the early 1970s. Business lending dominated foreign-owned, but not U.S.-owned, bank loan portfolios. The recent slowdown in the increase in business lending by both foreign- and U.S.-owned banks operating in the United States reflected a weak domestic economy and a negative impact on bank lending of increased U.S. and foreign banking capital requirements.

New 1993 data on offshore lending by foreign-owned banks provide additional insights into their business lending activities.

- European banks extensively used offshore banking centers to lend to U.S. firms, and played a much more important part in foreign-owned banks' business lending in the United States than previously thought.

- The new offshore lending estimates, combined with data from the Federal Financial Institutions Examination Council, show that Japanese banks did not dominate foreign-owned banks' business lending in the United States in the 1980s.

Growth of Trade in Goods and Services

U.S. affiliates accounted for a major share of the U.S. trade deficit in goods and services. Moreover, their trade patterns differed significantly from that of U.S.-owned firms. The overall U.S. trade deficit peaked in 1987, and then greatly improved after the 1985-87 depreciation of the dollar. However, U.S. affiliates' share of the total U.S. merchandise trade deficit has been steadily rising since 1984, reaching 88 percent of the total U.S. trade deficit in 1990. U.S. affiliates were the largest contributors to the pre-1987 growth in the U.S. trade deficit and accounted for almost none of the overall deficit reduction between 1987 and 1990.

Several key factors have accounted for the divergence in trade performance of foreign-owned and U.S.-owned firms in the 1980s:

- The number of foreign-owned firms grew rapidly, and these firms tend to depend on their parents for goods they use as intermediate inputs or for resale.

- Since 1986, most of the growth in U.S. affiliate foreign trade was attributable to the expanded foreign trade of existing U.S. affiliates, while an important but small share was attributable to the foreign trade of new affiliates acquired each year.

- A major share of the import growth since 1986 was by U.S. affiliates in wholesaling, including those mainly in the business of importing.

U.S. affiliates' exports accounted for a small, but not insignificant, share of the growth in the U.S. economy and jobs between 1986 and 1990. In 1990, U.S. affiliate merchandise exports accounted for approximately one-fourth of the total contribution to U.S. GDP by all U.S. firms' exports. Between 1986 and 1990, U.S. affiliate merchandise exports contributed an estimated 7 percent of total real U.S. GDP growth (in 1987 dollars). Moreover, U.S. affiliate exports accounted for an estimated 1.7 million of the total 7.2 million jobs supported by overall U.S. merchandise exports in 1990.

Among the various investing countries, Japanese-owned firms accounted for the largest shares of U.S. affiliates' total exports and imports, and for well over one-half of the growth in the U.S. affiliates' overall trade deficit in the 1980s. Much of the Japanese-owned affiliates' trade deficit reflected the major share of investment primarily in wholesaling -- i.e., importing for resale in the U.S. market rather than manufacturing.

Technology Acquisition and Transfer

The scale of operations of foreign-owned, high-technology firms grew steadily in the 1980s through acquisition and expansion of existing facilities, but still remained small in terms of their shares of the total employment, sales, or assets in U.S. high-technology industries. They are slightly more heavily concentrated in high-technology industries than U.S.-owned firms, and their shares differed in specific industries. In audio and video equipment, plastics and synthetic fibers, industrial inorganic chemicals, and drugs and medicines industries, foreign firms -- principally Japanese, German, and British firms -- acquired a significant share of the U.S. market. U.S. affiliates tended to concentrate in the same broad, high-technology industry categories their parents occupy in their home country, suggesting that they invest in sectors in which the parents are strong exporters or have comparative advantage. This tendency also reflects an apparent strategy to maintain or gain market share of specific high-technology goods, and to exploit new technologies in the U.S. market.

Foreign firms have apparently used FDI to gain access to leading U.S. technologies, such as biotechnology and computer software, and to increase their share of the large U.S. market -- the world's largest single market for high-technology products. Acquisition and establishment of U.S. firms, however, were only two of the many ways of achieving these goals. Others included marketing and sales agreements, second sourcing agreements, cooperative research projects, funding of U.S. university research, direct purchases of technology, and employment of U.S. scientists and engineers.

Although the extent that U.S. affiliates contributed to, or transferred abroad, U.S. technology cannot be directly measured from available data, the data suggest that U.S. affiliates contributed to U.S. technology development. U.S. affiliates increased their R&D spending at a faster rate than U.S.-owned firms, in general, and especially in high-technology industries, doubling their ratio of R&D spending to sales between 1980 and 1990. Japanese-owned firms showed the strongest increase. In high-technology, manufacturing industries, U.S. affiliates devoted similar amounts of R&D resources relative to sales as U.S.-owned firms, but had higher ratios in the drugs and audio, video, and communications equipment industries. It should, however, be noted that R&D results may be applied to foreign, as well as U.S., production.

Royalty and license fees data show that affiliates received far more technology from their foreign parents than they sent abroad. These fees are also sometimes viewed as a means of transferring income from a high-tax to a low-tax country. However, the overwhelmingly large volume of payments over receipts suggests that there has been a net inflow of technology to U.S. affiliates from their foreign parents.

Profits and Taxes

As a whole, foreign-owned corporations reported lower taxable incomes relative to revenues and assets, compared to their U.S.-controlled counterparts. These lower ratios of taxable income to revenues and assets raised questions about the extent to which foreign-owned corporations may have shifted otherwise taxable income earned in their U.S. operations to lower-tax countries through transfer pricing practices (i.e., practices that depart from "arms-length" standards). Data obtained from the Internal Revenue Service (IRS) on foreign-controlled (majority ownership) and U.S.-controlled corporations were used to examine possible explanations of income differentials, including possible income shifting.

Statistical analysis of these data indicated that at the most, about half of the difference in the ratios of taxable income to revenues (and assets) between foreign-owned corporations and U.S.-owned corporations could be explained by factors other than income shifting and transfer pricing practices. Because the IRS firm level data cannot be used to identify transfer price distortions directly, the analysis assessed the effect of seven factors, which could be estimated, on the differences in the income ratios. The factors were high debt charges, asset valuation distortions, unprofitable acquisitions, start-up costs and maturation, exchange rate changes, and differences between parent and affiliate profits. About half of the differences could be explained by these factors. This suggests that the remaining half of the aggregate difference is an *upper bound* for the total amount of possible distortions due to transfer pricing practices. Other unestimated factors include, for example, the desire for diversification, differences in the cost of capital, longer time horizons of foreign-controlled versus U.S.-controlled firms, and possibly a willingness to accept lower profits to pursue other strategies, such as circumventing trade barriers and retaining access to the large U.S. market.

Data Sources and Measurement Issues

The principal sources of data for this report are the Department of Commerce, Bureau of Economic Analysis and the Bureau of the Census, and the Department of Labor, Bureau of Labor Statistics. Other data sources include the Federal Reserve System, the U.S. Department of Treasury, and privately collected databases.[3]

Bureau of Economic Analysis Data

BEA conducts quarterly, annual, and benchmark (every five years) surveys of foreign direct investment in the United States under the mandate of the International Investment and Trade in Services Survey Act.[4] These data are collected on a consolidated enterprise or firm basis that eliminates duplicative intra-company transactions and records sales of goods and services by the firm only once. They provide a detailed picture of the levels, growth, and regional and industry distribution of investments, and of the operating characteristics of the U.S. affiliates of foreign firms. U.S. affiliates are primarily classified in the industry which accounts for the largest share of the affiliates' sales. These data can be used to compare the activities of U.S. affiliates and U.S. firms, but are not useful for examining the activities within enterprises which operate in diverse industries.

Data Link Project

To overcome limitations in analyzing data collected on enterprises, the Foreign Direct Investment and International Financial Data Improvements Act of 1990 authorized limited sharing of data between BEA and Census and BEA and the Bureau of Labor Statistics (BLS). Census and BLS collect data on an establishment or plant basis. Establishment data are classified by the industry accounting for the major activity of that plant or location, and provide industry information in greater detail than that on an enterprise basis. For example, the link project expands the information from 135 industries classified at approximately the three-digit Standard Industrial Classification level to 800 industries classified at the SIC four-digit level, and provides data that more accurately reflect the industrial activities of U.S. affiliates.

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[3] For a complete listing and discussion of all data collected by the Federal government on foreign direct investment in the United States, see Chapter 9.

[4] For a discussion of data collected by the Bureau of Economic Analysis, see Alicia M. Quijano, "A Guide to BEA Statistics on Foreign Direct Investment in the United States," *Survey of Current Business* (February 1990), pp. 29-37; and for a list of the most recent publications on foreign direct investment, see Bureau of Economic Analysis, *A User's Guide to BEA Information* (March 1993).

The initial data provided by the BEA-Census data link project cover the number, employment, payroll, and shipments or sales of establishments of U.S. affiliates of foreign firms in 1987. These data have been disaggregated by industry, by state location, and by country of ultimate beneficial owner, and show comparable detailed industry information for the United States as a whole. Expanded information for 1989 and 1990 on manufacturing establishments of U.S. affiliates are to be published in 1993. Among the additional data to be included are value added, hourly wages of production workers, and capital expenditures. Data on non-manufacturing establishments will be published again when the 1992 census data are available.

The BEA-BLS linked data cover 1989 and 1990. The data provide information on average monthly employment and wages by four-digit SIC industries. The data include establishments of both U.S. affiliates and U.S.-owned firms.

Other Data Sources

Other sources of data used in this report are specialized data series, such as:

- The Federal Reserve System and the U.S. Department of Treasury collect detailed financial and operating data from domestic and foreign banks in the United States, as required by U.S. law. To limit the reporting burden, BEA does not collect as comprehensive information on foreign banks in the United States as it does for other types of businesses.

- The U.S. Department of Treasury's Internal Revenue Service provides data on assets, income, and taxes of foreign-controlled, majority-owned corporations in its *Statistics of Income Bulletin.*

- Data on R&D facilities by industry and location have been collected by individual researchers. These data are not comparable to official government information.

Data Limitations

The data link projects of BEA-Census and BEA-BLS begin to resolve comparability problems among data on FDIUS at the enterprise and establishment levels; however, comparability problems and other data problems remain. **International trade data** for U.S. affiliates for benchmark years are collected by BEA on a product basis, and are reasonably comparable to U.S. industry data collected by the Bureau of the Census from U.S. Customs documents on a product basis. However, the BEA data are for only very broad product categories. For non-benchmark years, BEA's U.S. affiliates' trade data are available only on an industry of affiliate basis, and thus, are not comparable to Census trade data by product.

In addition, some types of data can be provided to BEA by companies only on a consolidated, enterprise basis, such as **profits, taxes, and R&D expenditures**. Profits, taxes, and R&D data are reported to BEA for the enterprise as a whole, and thus, these items cannot be allocated to specific industries in which the U.S. affiliates operate. Lack of industry detail limits analysis of the extent to which research on, and development of, leading edge, or critical, technologies are being pursued by U.S. affiliates.

Data are published by BEA on outlays by foreign firms to acquire and establish U.S. affiliates in any given year. Separate data on subsequent sales of parts of an acquired firm, however, are not collected by BEA surveys. Similarly, first year expenditures for a new establishment are collected, but separate data on later expansions of the newly established firms are not. Thus, the data do not permit direct, full comparisons between newly acquired or established affiliates and existing affiliates. Such data would provide clearer insights into the impact of U.S. affiliates on U.S. employment, trade, and investment. In addition, the data cannot be used to examine the evolution of a given U.S. affiliate over time, for example, from wholesaling, to assembly, to manufacturing. Also, uses of imports for resale, further processing, or capital equipment, cannot be easily identified.

The value of foreign direct investment also had been raised as an important, analytical limitation in the past, because the historical cost basis used by BEA underestimates FDIUS.[5] BEA now revalues the aggregate foreign direct investment position to current market values and current replacement costs for total accumulated values of FDIUS. However, BEA has not been able to revalue to these new bases the data on FDIUS position in individual industries or by country. Hence, any analysis of the FDIUS position by industries or by investing countries is on a historical cost basis.

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[5] See Robert Eisner and Paul J. Peiper, "The World's Greatest Debtor Nation," paper presented to the Joint Session of North American Economics and Finance Association and American Economic Association, New York, New York, 1988; Michael Ulan and William G. Dewald, "The U.S. New International Investment Position: Misstated and Misunderstood," in James A. Dorn and William A. Niskanen, eds., *Dollars, Deficits, and Trade* (Boston, MA: Kluwer Academic Publishers, 1989).

2

World Trends in Foreign Direct Investment

*by John W. Rutter**

Global foreign direct investment (FDI) flows soared during the last half of the 1980s, in terms of outflows and inflows, peaking in 1989-90, and then sharply dropping in 1991.[1] These investments mainly reflected changing world macroeconomic conditions, government policies, the strengths of multi-national corporations, and anticipated elimination of intra-European Community trade and investment barriers at the end of 1992.

A major share of that surge in world inflows during the last half of the 1980s was accounted for by rising inflows into EC countries from each other and from other countries, and inflows into the United States, driven by exchange rate changes and the drive to be in the U.S. market. Most of the surge in outflows during the period was from the EC countries and Japan. However, outflows from Japan dropped sharply after peaking in 1990, while, in 1992, U.S. inflows became negative--turning into net disinvestment. While the dollar value of intra-U.S.-Canadian FDI flows continued to edge up during the latter 1980s, its share of the faster growing world FDI flows declined.

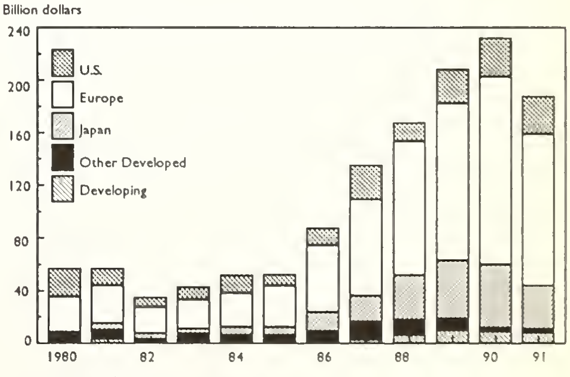
The world stock of FDI also surged after 1985, reflecting the surge in world FDI flows. In 1990, the United States remained the largest individual national source and host of the world's stock of FDI. The United States continued to absorb larger shares of world inward FDI than any other country throughout the 1980s. Nevertheless, the U.S. share of world inward direct investment stock has been edging irregularly downward from its 1988 peak. The U.S. share of the world outward stock also continued to decline in the 1980s, but appeared to level off in 1990 and 1991.

Relative to the size of its economy, the United States still held by 1990 the same or a smaller share of the worldwide stock of inward FDI than any other major industrial country except Japan. The European countries held over one-half of the worlds' stock of outward direct investment in 1990, much of which was direct investment in other European countries made in anticipation of the European Community's major step towards economic integration at the end of 1992.

Global Surge in FDI in the 1980s

During the last half of the 1980s, global FDI soared. World FDI capital outflows during this period totaled over $800 billion -- more than triple their total of almost $250 billion during the 1980-85 period (Figure 2-1).

Figure 2-1
World Outward Flows, by Major Sources, 1980-91



e = estimated.
Sources: IMF, *Balance of Payments Statistics Yearbook.*

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[1] The flow data represent annual direct investment capital flows (equity, reinvested earnings and intercompany debt) between direct investors and their foreign affiliates. Stock data represent the cumulative historical book value of direct investors' equity (including reinvested earnings) in, and net intercompany debt with, their foreign affiliates. However, not all countries separately collect reinvested earnings data, nor do all countries separately identify intercompany debt between foreign parent companies and their foreign affiliates, or their debt with unaffiliated parties.

The stocks of direct investment in countries that do not provide their own official stock estimates are estimated by cumulating data on flows of FDI from reporting countries. Because of valuation adjustments, such as currency translation gains or losses or write-ups or write-downs of assets, annual changes in stocks seldom exactly equal annual flows.

Stock data include capital flows and valuation adjustments (such as realized or unrealized exchange rate or other gains and losses, and accounting adjustments to asset values, often including the value of good will).

European countries were the primary source of the increase in direct investment capital outflows during the 1980s, followed by Japan and the United States. European countries were also the main recipients of FDI inflows during the 1980s, followed closely by the United States and then developing countries as a whole (Figure 2-2).

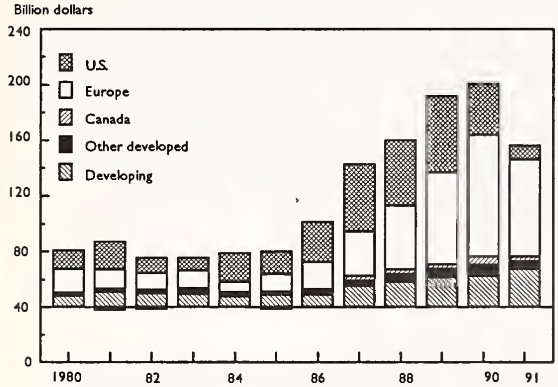
The post-1985 surge in FDI outflows far outpaced the rise in other economic indicators -- world trade, world output, and world-wide domestic investment. While outward FDI capital flows more than tripled from 1985 to 1990, world trade, world gross domestic product and domestic investment rose much more slowly (Figure 2-3).

Reflecting the surge in world FDI outflows, the world stock of outward FDI also soared during the last half of the 1980s, rising from $517 billion in 1980 to $678 billion in 1985, and then surging to over $1.6 trillion by 1990 (Figure 2-4). During 1980-85, the stock rose at an average annual rate of 5.6 percent, compared with a 19.4 percent average growth rate during 1985-90.

The rapid 1985-90 rise in the value of global FDI outward stock primarily reflects the rapid rise in its volume. Although world FDI stocks are valued at historical cost, neither exchange rate fluctuations nor inflation can account for the vast post-1985 increase in FDI. Even

Figure 2-2

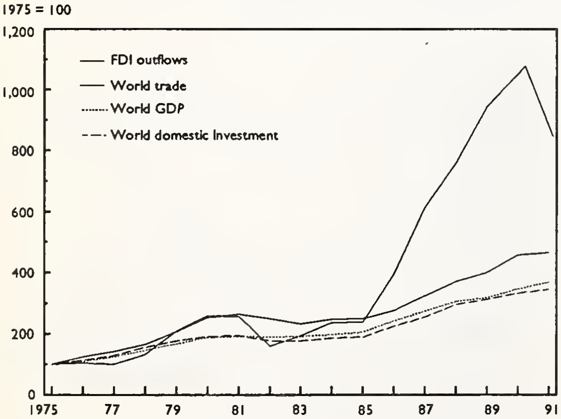
World Inward FDI Flows, by Major Recipient, 1980-91



Source: IMF, *Balance of Payments Statistics Yearbook.*

Figure 2-3

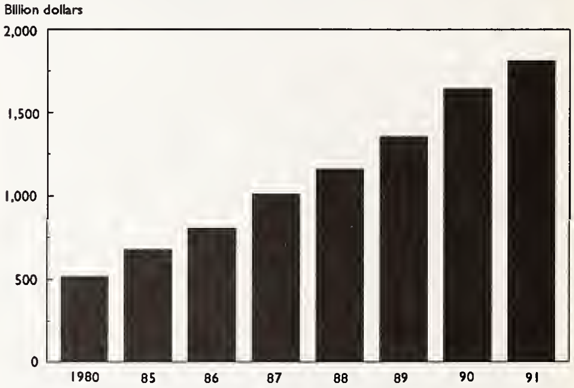
Indexes of World FDI Outflows, Trade, GDP, & Domestic Investment, 1975-91



Sources: FDI outflows and world trade: IMF, *Balance of Payments Statistics Yearbook;* world GDP and investment: The World Bank, International Economics Dept., unpublished data.

Figure 2-4

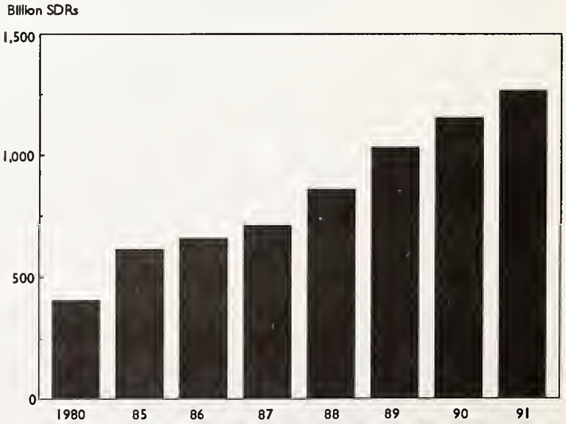
World Outward Stock of FDI, in Current U.S. Dollars, 1980-91*



*Based on outward stock of FDI held by source countries.
Source: U.S. Department of Commerce, International Trade Administration, Office of Trade & Economic Analysis.

Figure 2-5

World Outward Stock of FDI, in Current SDRs, 1980-91*



*Based on outward stock of FDI held by source countries.
Source: U.S. Department of Commerce, International Trade Administration, Office of Trade & Economic Analysis.

after expressing stock values in terms of Special Drawing Rights (SDRs)[2] to compensate for the effect of exchange rate fluctuations on the reported trend value of world FDI stocks, world FDI outward stocks nearly doubled in value from 1985 to 1990 after rising by only about 50 percent from 1980 to 1985 (Figure 2-5).

Slowdown in 1990-91 FDI Flows

In contrast to rapid growth in the late 1980s, world FDI outflows fell sharply in 1991. World FDI outflows peaked at $235 billion in 1990 and then declined to $183 billion in 1991. Japanese outward FDI flows declined from $48 billion in 1990 to $31 billion in 1991, European outward investment fell from $142 billion to $113 billion, and U.S. outward investment flows held steady. The world stock of FDI increased by only 11 percent to $1.8 trillion in 1991, compared with an average annual growth rate of 19.4 percent for the 1985-90 period, but still double its 1980-85 growth rate.

In theory, world outward and inward FDI flows should be equal. In practice, however, they are not equal because of differences between countries in FDI definitions and data collection methodologies.[3] The decline in world FDI inflows was even larger than the decline in outflows. World FDI inflows rose slightly from $190 billion in 1989 to $201 billion in 1990, but then fell to $145 billion in 1991. Sharp declines in inward FDI flows to the United States and to most major European countries were the major reasons for the drop in world inward FDI flows in 1991.

Reasons for Surge and Slowdown in FDI Flows

Several major factors have contributed to the surge in world FDI flows during the late 1980s and their subsequent slowdown in 1990-91. They are:

- **Macroeconomic conditions,** which generally drive FDI activity, including economic growth in the recipient nation, exchange rate and interest rate differentials, and capital flows representing the recycling of trade and current account surpluses;

- **Government policy actions** that tend to influence FDI, such as the EC 1992 program or the liberalization of Japan's capital markets;

- **Special advantages of multinational corporations** (MNCs), best explained by industrial organization theories, which propelled FDI into being a major force behind the globalization of production, investment, and markets.

Macroeconomic conditions

The direction of change in FDI flows tends to correlate with economic growth cycles, because growing markets attract new investments. During 1980-85 world GDP growth (in current dollars) was slow, averaging less than 2 percent annually, while total outward FDI flows were actually slightly lower in 1985 than in 1980. In contrast, during 1985-90, world GDP growth rose sharply, averaging 11 percent annually, while total outward FDI flows rose an average 34 percent annually.[4]

This correlation continued in 1991, as world GDP growth again slowed and world outward FDI flows declined. Preliminary data also suggest that world GDP growth slowed further in 1992, reflecting slow economic growth in most major industrial countries. Preliminary data also suggest that overall world FDI outflows declined further in 1992, as German and Japanese outward FDI flows declined sharply in the first half of the year. Although U.S. outward flows surged during the first half of 1992, they declined in the third quarter of 1992.

Exchange rate changes

Exchange rate changes also appear to have had a great impact on world FDI flows. They particularly contributed to the surge in FDI inflows into the United States in the 1980s. The rapid dollar depreciation that occurred following the Plaza Accord among the G-7 nations in 1985 made assets and production costs less expensive in the United States than in other major industrial countries, thus helping to attract foreign investors to the United States. Much of this surge was in the form of acquisitions of U.S. companies, for which foreign investors were able to outbid U.S. investors, partly because of their lower debt/equity ratios resulting from dollar depreciation.

In 1990 and 1991, higher interest rates in Japan and

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[2] The SDR is a composite currency unit designed by the International Monetary Fund that comprises the currencies of France, Germany, Japan, United Kingdom and the United States according to each country's relative proportion of exports of goods and services.

[3] FDI outflows are larger than FDI inflows, because a larger proportion of FDI outflows compared with inflows originate from a small number of developed countries which have relatively better data collection systems. The International Monetary Fund (IMF) examination of discrepancies in FDI data collection methodologies used by member countries revealed that the major reasons for non-symmetry of outflows and inflows were: 1) differences in the treatment of branch profits; 2) differences in the treatment of unrealized and realized capital gains and losses; 3) differences in definitions and data collection including timing; and 4) gaps in recording reinvested earnings, intercompany debt, and real estate and construction activity. For more details see, IMF, *Report on the Measurement of International Capital Flows*, September 1992.

[4] World GDP data from World Bank, International Economics Department.

Europe, and lower equity values in Japan helped dampen the incentive of foreign investors to continue expanding their investments in the United States. Total European FDI flows grew even larger in 1991, but the increase probably reflected a large rise in intra-European Community (EC) investment that was motivated by the planned EC economic integration. Also in 1990 and 1991, the collapse of Japanese equity values and the need to meet banking reserve requirements sharply restricted Japanese capital outflows.

Government policy actions

The removal of foreign national restrictions on FDI and, in some instances, the easing of trade restrictions, also appeared to influence significantly FDI trends. On the other hand, increased trade restrictions by some countries apparently motivated some foreign companies to avoid those trade barriers by making direct investments overseas. For example, Japanese direct investment in U.S. and European automobile factories was largely in response to voluntary export restraints, and European tariffs, quotas, and domestic content requirements.

Increased economic integration within, and possible enlargement of, the EC beginning in 1992 was another major government policy action that encouraged FDI expansion and rationalization in the EC by European and other foreign investors to ensure market access, increase market shares, achieve economies of scale, and improve productivity. In fact, several EC countries began to remove their FDI and trade restrictions on intra-EC flows of investment, goods and services--especially financial services--in the late 1980s and ahead of their scheduled 1992 elimination. Some non-EC European countries also joined this trend, including Sweden and Switzerland, by liberalizing their investment regulations in order to remain competitive with EC countries. FDI inflows surged in Canada, following the removal of some FDI restrictions as part of the U.S.-Canada Free Trade Agreement. Developing countries also were gradually reducing their barriers to FDI during the 1980s, which led to increased FDI inflows in those countries where economic and political conditions were favorable. In Mexico, many FDI and trade restrictions were eased unilaterally even before negotiations began on the North American Free Trade Agreement.

Advantages of MNCs

Perhaps the most basic, underlying motivation behind FDI is the nature of MNCs. Industrial organization theory maintains that MNCs have advantages over wholly domestic firms in technology, management and marketing skills, and in financial resources that they are able to use in pursuing global strategies to increase market share. MNCs are able to circumvent market imperfections, such as trade barriers and inefficient or undeveloped domestic financial markets, by internally transferring across borders the financial capital and technical and managerial knowhow to begin or expand production abroad.

The pervasiveness of MNCs in world industrial production is evident from the fact that between 30 and 40 percent of the world's largest MNCs' sales is in goods and services produced by their foreign affiliates, and that their total sales now exceed total world trade.[5] Underlining this point, global sales of foreign affiliates rose at an average annual rate of 9 percent during the 1980s, significantly above the growth rates of world trade (5.4 percent) and world output (2.8 percent).[6]

Trends in Outward FDI by Region and Country

European Investment Surges

European investors hold the largest amount of outward FDI stock, followed by the United States and Japan (Figure 2-6 and Appendix C, Table 2-1). The outward FDI stock held by European investors rose from $232 billion in 1980, to $309 billion in 1985, and then more than doubled to $853 billion by 1990. Thus, European countries as a whole held 51.9 percent of the world outward FDI stock in 1990, a share size last held by the United States in the late 1960s. The EC countries alone held 43.5 percent of the world outward FDI stock in 1990.

As might be expected, FDI capital outflows from European countries account for the vast majority of the increase in world outward FDI stocks. From 1980 to 1990, cumulated European FDI outflows amounted to $607 billion and accounted for a 55.1 percent net change in world outward FDI stocks. The cumulative value of these outflows are a far larger share of the world total than that accounted for by the cumulated Japanese FDI outflows of $186 billion and cumulated U.S. FDI outflows of $160 billion over the 1980s.

The majority of the increase in European outward investment reflects acquisitions by Europeans of other European companies, partly in anticipation of the planned economic integration of the EC in 1992. Reflecting the rising focus of investors on EC opportunities, the share of the total EC outward FDI stock held in EC countries--intra-EC FDI--rose from 24 percent to 35 percent between 1980 and 1989, and, as a share of total world outward stock, from 9 percent to 15 percent over that period. Excluding intra-EC investment, the EC outward FDI stock reached $370 billion in 1989, and accounted for 27 percent of the total world outward stock--nearly equalling the 28 percent U.S. outward stock share.[7] The largest share of that total EC-owned stock outside the EC is located in the United States.

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[5] John H. Dunning, "The Competitive Advantages of Countries and the Activities of Transnational Corporations," in United Nations, *Transnational Corporations*, Volume 1, Number 1, February 1992, p. 142.

[6] Foreign affiliate sales from United Nations, *World Investment Report, 1992*, p. 55; world trade and output from Central Intelligence Agency, *Handbook of Economic Statistics*, 1991, p. 26.

Of EC members in 1990, the United Kingdom held the single-largest share (14.9 percent) of the world outward FDI stock, followed by Germany (9.4 percent), France (7.0 percent) and the Netherlands (6.0 percent). Outward stock held by Belgium, Denmark, France and Italy grew at the fastest growth rates between 1985 and 1990, as companies in those countries sought to expand their size and market share rapidly through foreign acquisitions in order to meet the heightened competition arising from EC-92. Although EC investors account for the vast majority of outward European FDI stocks, by 1990, Switzerland, Sweden, Finland and Austria also became sizeable holders of outward FDI stocks, reflecting their relatively large increases in holdings after 1985.

The growth rate of outward FDI stocks from the three countries holding the most FDI abroad--France, Germany and the United Kingdom--declined sharply in 1991, after surging in the late 1980s. The growth slowdown in outward FDI stocks from these three countries reflects primarily the declines in their outward FDI in the United States and an apparent temporary slowdown in mergers and acquisitions in the EC, as well as the U.K recession and East German absorption of West German capital. After declining in 1991, the number and value of acquisitions of European companies rose sharply during the first half of 1992.

The global merger and acquisition boom, which faded in 1990 and 1991, was a key means of achieving instant market presence. However, the pace of mergers and acquisitions in Europe picked up again in the first half of 1992, as companies sought to rationalize further their existing operations or expand into new EC markets, and foreign investors--especially Japanese--sought to increase their market share beyond that already achieved through exporting.

Although French outward FDI growth also slowed in 1991, that growth continued at a faster rate than for any other major industrial country. The French outward FDI stock has increased more than four-fold since 1985, mostly through acquisitions in Europe and the United States. The faster growth of French outward FDI apparently reflects French industry's desire to increase global market share and acquire foreign technology, and the French government's apparent desire to expose French companies to more intense global competition.

U.S. Share of World Outward FDI Declines

Although the U.S. stock of outward FDI has continued to rise during the 1980s, its share of the world outward stock of FDI continued to fall, on a historical book value basis--decreasing from 42.6 percent in 1980, to 37 percent in 1985, and to 25.9 percent in 1990, and an estimated 25.1 percent in 1991. Even when estimated on a current cost or market value basis, the U.S. share of world outward FDI stock declined during the 1980s, especially after 1985 (Table 2-1).

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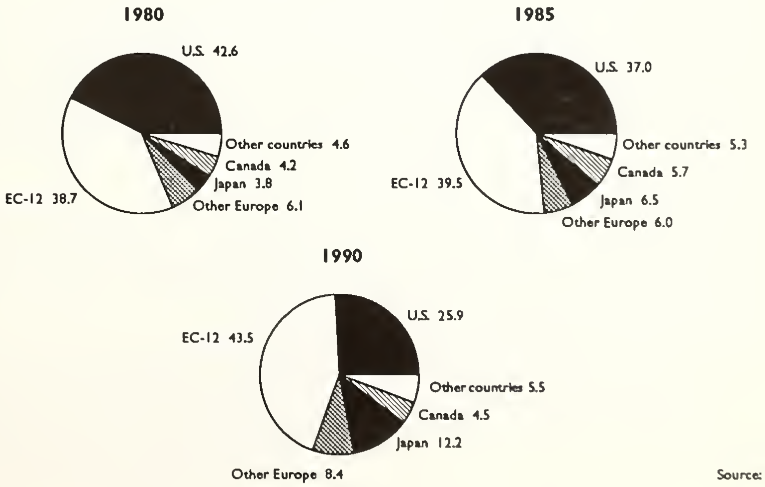
[7] United Nations, Center on Transnational Corporations, *World Investment Report*, 1991 and 1992.

Figure 2-6
World Outward FDI Stock, by Major Source
(In percent share)



Source: See Appendix C, Table 2-1.

Table 2-1
Estimated U.S. Share of World Outward and Inward Stocks, Based on Book Value, Current Cost, and Market Values
(Percent Share)

	Outward Stock			Inward Stock		
	1980	1985	1990	1980	1985	1990
Book Value	42.6	37.0	25.9	16.4	25.4	24.2
Current Cost	47.4	41.9	30.5	18.6	21.7	20.3
Market Value	41.8	41.9	28.5	22.3	21.7	21.9

Note: For outward stocks, the assumption is made that non-U.S. outward direct investment at current cost and at market value followed the same trend as current cost and market value of foreign direct investment in the United States; for inward stocks, the assumption is made that non-U.S. inward direct investment at current cost and at market value followed the same trend as current cost and market value of U.S. direct investment abroad.
Source: U.S. Department of Commerce, International Trade Administration, Office of Trade and Economic Analysis.

The U.S. outward FDI stock, measured at book value, after growing at a very slow average annual rate of 2.7 percent from 1980 to 1985--well below the long-term historical average of 10 percent--increased at an average annual 11.2 percent rate from 1985 to 1990. These stock growth rates based on dollar values do not primarily reflect changes in the value of U.S-owned assets in the countries in which they are located. Instead, these dollar-value growth rates primarily reflect the major dollar exchange rate fluctuations that occurred over the 1980s--a large dollar appreciation during 1980-85 and depreciation during 1985-90. (Dollar appreciation lowers the dollar-based growth rate; dollar depreciation increases it.)

Translation of these dollar growth rates to growth rates based on exchange rates of dollars for SDRs provides a rough basis for compensating for dollar exchange rate fluctuations. In SDR terms, the growth rate of the U.S. outward FDI stock averaged 5.8 percent during 1980-85--double the dollar-based rate, and 5.6 percent during 1985-90--one-half the dollar-based rate (Appendix C, Table 2-2). In other words, the growth in the U.S. stock abroad was about the same throughout the 1980s on an SDR basis.

Over one-half of the increase in the total U.S. outward FDI stock between 1985 and 1990 was stock held in Europe, primarily in the EC. Most of that increase was in the form of a rise in reinvested earnings by existing U.S.-owned European affiliates and increased stock valuation due to dollar depreciation. U.S. net equity investment in Europe also increased after 1985, but to a much lesser extent than reinvested earnings. Switzerland became a major non-EC European recipient, partly in response to its liberalized FDI regulations.

Although the U.S. direct investment stock in Japan more than doubled from 1985-90, it totaled only $21 billion in 1990, or slightly less than 5 percent of the total U.S. outward FDI stock. U.S. investment in Canada increased by $20 billion between 1985-90, but at such a relatively low growth rate that Canada dropped behind the United Kingdom as the largest host country of U.S. outward FDI in 1990. Canada reclaimed its position in 1991, as U.S. FDI in the United Kingdom remained level. Total intra-U.S./Canada FDI stocks rose in value over the 1980s, reaching $112.8 billion in 1990. However, its growth was slower than that of the total outward FDI stock of both nations and the world, resulting in Canada's share of both totals edging downward in 1990.

In developing countries, U.S. direct investment in Latin America (excluding that in Netherlands Antilles finance affiliates) rebounded after 1985, especially in Bermuda, Brazil, Mexico and Panama, and accounted for four-fifths of the total increase in U.S. investment in developing countries from 1985-90. The remaining one-fifth of the increase was in East Asian developing countries.

In 1991, the U.S. outward FDI stock increased much more slowly. This was mainly due to a shift from currency exchange rate translation gains in 1990 to losses in 1991, as well as to lower earnings and residual reinvested earnings in Europe. During the first three quarters of 1992, U.S. outward FDI growth resumed, as outflows accelerated to the United Kingdom and Latin America.

The Surge and Slowdown in Japanese Outward FDI

Between 1980 and 1985, the Japanese outward FDI stock grew from $20 billion to $44 billion at an average annual rate of 18 percent, and then between 1985 and 1990 it shot up to $201 billion, an average annual rate of growth of 36 percent.[8] Although Japanese actual stock data from the Bank of Japan are not available by country or industry, notifications data from the Ministry of Finance reveal that most of the increase went to the United States, with European countries far behind (Appendix C, Table 2-6)[9].

The major recipients of Japanese FDI outflows in Europe in the 1980s were the United Kingdom and the Netherlands, followed by Belgium, Germany and France.

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[8] Japanese direct investment data do not include reinvested earnings. Based on host country data, we estimate that cumulative reinvested earnings of Japanese foreign affiliates amounted to about $17 billion at yearend 1990, which, if included, would raise the stock of Japanese outward FDI to $218 billion.

[9] Japanese data shown in Appendix C, Table 2-7 do not agree with Japanese data shown in Appendix C, Table 2-1 because they are from different sources. Data in Appendix C, Table 2-7 are notifications data from Japan's Ministry of Finance, whereas data in Appendix C, Table 2-1 represent actual completed investments compiled by the Bank of Japan. Unfortunately, the Bank of Japan does not provide direct investment data on a country or industry basis.

In addition to Japanese investment intended to serve the local markets, the relatively open FDI regulations of the United Kingdom and the Netherlands also encouraged Japanese investors to establish holding companies from which to invest in other EC countries. In the 1980s, Japanese investment in the United States and Europe shifted rapidly away from emphasis on wholesale business to manufacturing and services industries.

Japanese outward FDI also increased in Australia and in Asian developing countries, mostly after 1985. However, Japanese investment in developing Asian countries grew less rapidly than in the United States and Europe, so that the shares of total Japanese investment in most Asian developing countries declined after 1985, except in China and Thailand, where the shares rose. After 1985, Japanese direct investment also increased in Latin America, mostly in Brazil, and in the banking and finance sectors of the tax haven countries -- Panama and the Cayman Islands.

In 1991, Japanese FDI outflows began to decline sharply worldwide, but especially those to the United States and Europe. In 1992, Japanese FDI outflows fell below U.S. FDI outflows for the first time since 1987. Underlying the 1991 slowdown in Japanese FDI outflows was slower economic growth in Japan and the rest of the industrial world, a sharp rise in the cost of capital in Japan as a result of higher interest rates and lower Japanese equity prices, and the very low earnings of existing Japanese-owned affiliates. In 1991, reflecting the slowdown in outflows, the Japanese outward FDI stock increased by $30 billion, or 15 percent, to $232 billion, only one-half as fast as the previous five-year average.

Asian LDCs Expand Abroad

As a whole, developing countries increased their outward FDI stocks fast enough during the 1980s to maintain their 3 percent share of the world outward FDI stock. However, nearly all of the increase came from Hong Kong, Singapore and Taiwan, where their outward investment responded to their appreciating currencies, higher domestic production costs, large current account surpluses, and, in Taiwan, to the easing of both outward and inward FDI restrictions.

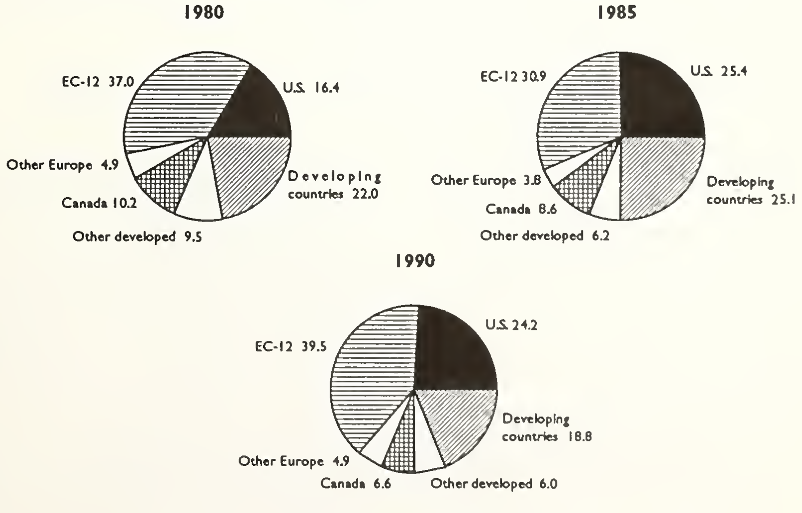
Trends in Inward Direct Investment by Country or Region

Europe Remains the Major Host Region

After languishing in the first half of the 1980s, inward FDI in Europe rebounded after 1985. The inward stock of FDI rose from $212 billion in 1980, to $252 billion in 1985, and then shot up to $726 billion by 1990. Europe hosted 44.4 percent of the world inward stock in 1990, of which the EC held 39.5 percent (Figure 2-7). The largest host countries in the EC were the United Kingdom (12.5 percent of total world inward FDI), Germany (8.1 percent), France (4.4 percent), the Netherlands (3.8 percent), Italy (3.7 percent) and Spain (3.4 percent).

The large increase in the inward FDI stock in Europe since 1985 was a mirror image of the EC outward FDI stock, and reflected preparations for the Single European

Figure 2.7
World Inward FDI Stock, by Major Recipient
(In percent share)



Source: See Appendix C, Table 2-4

Market at the end of 1992. Not all EC countries report comparable data on their inward direct investment stock by source country. However, the estimated intra-EC FDI stocks hosted by individual EC countries vary from a low of 26 percent for the United Kingdom to a high of 61 percent for Spain.[10] According to the United Nations, excluding intra-EC direct investment, the EC share of the world stock of inward FDI declined from 31 percent in 1980 to 23 percent in 1988, due to much faster growth of U.S. inward FDI.[11]

The inward FDI stock in Germany increased by an estimated $3 billion or only 2.3 percent in 1991, compared with an annual growth rate of 21.8 percent for the 1985-90 period. Slower economic growth, disinvestment by some foreign-owned companies, and a perceived decline in the attractiveness of Germany as an investment location because of higher taxes, production and labor costs, and prices, as well as stricter environmental requirements, have apparently been major factors behind this fall-off in inward FDI in Germany.[12]

Japanese direct investment in Europe increased rapidly during the 1980s, but from such a small base that it remained far behind investment from the United States or other EC countries. For example, in the late 1980s the Japanese share of Germany's total inward stock was only 8 percent, in the United Kingdom 4 percent, in the Netherlands 3 percent, and in Belgium and Luxembourg only 3 percent.[13] Japanese investment in Europe was mostly in finance, manufacturing, trade and real estate. In manufacturing, it was concentrated in autos, computers, and consumer electronics.

Outside the EC, inward direct investment increased most rapidly in Switzerland. Although much smaller in amount, FDI grew very quickly in the smaller non-EC countries, mainly Austria, Finland, Norway, Sweden and Turkey.

United States -- the Single-Largest Host Country

The U.S. inward stock of FDI doubled from 1980 to 1985, and again from 1985 to 1990, resulting in the United States continuing to be the world's single-largest host country. By year-end 1990, the U.S. inward stock had reached $397 billion, nearly double that in the second-largest host country -- the United Kingdom. Despite the large 1985-90 increase in inward FDI stock, the U.S. share of the world inward stock declined slightly as a result of the much faster growth of FDI in Europe. After peaking in 1989 at 26.8 percent, the U.S. share of the world inward FDI stock declined to 24.2 percent in 1990.

In 1990, the growth of U.S. inward FDI stock slowed sharply. The U.S. inward FDI stock rose by only 7.5 percent in 1990 and by only 2.7 percent in 1991, a sharp drop from the 16.5 percent average rate between 1985 and 1990. Partly reflecting this drop in U.S. inward FDI stock, the U.S. share of the world inward FDI stock declined further to an estimated 23.5 percent in 1991. In 1992, U.S. net inward FDI flows were negative, reflecting a $2.6 billion net disinvestment--the first annual disinvestment since the mid-1940s.

Major factors behind the 1990-91 slowdown in U.S. FDI inflows include:

- Very slow U.S. economic growth, very low earnings of foreign-owned U.S. affiliates resulting partly from high start-up and restructuring costs, and large interest payments on debt incurred to finance earlier U.S. acquisitions,

- Liquidity or excess capacity problems in industry sectors where foreign investors have made recent large investments (including banking, finance and real estate), and

- Reduced ability to maintain high FDI outflows to the United States by the two largest FDIUS sources--the United Kingdom and Japan, reflecting their domestic economic recessions and, in the case of Japan, a major fall in aggregate domestic equity values.

Since 1985, most U.S. inward investment has come from Europe, especially the EC, followed by Japan, Canada, and Australia. Although European investment increased by the largest amount, Japanese investment grew the fastest. By 1988, Japan had become the second-largest investor in the United States, after the United Kingdom.

Other Developed Countries

Until 15 years ago, Canada was the world's largest host country of FDI. However, its share of world inward FDI stock declined steadily from 10.2 percent in 1980 to 6.6 percent in 1990, mainly because U.S. direct investment in Canada increased relatively slowly during most of that period. Canada's inward FDI flows picked up in the latter half of the 1980s and into 1990 and 1991, mostly from non-U.S. sources, coinciding with a favorable change in Canada's investment policies as embodied in the U.S.-Canada Free Trade Agreement. In 1990, Canada was ranked as the fourth-largest host country, behind the United States, United Kingdom and Germany.

Inward direct investment in Australia increased rapidly after 1985, mostly from the United Kingdom,

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[10] Stephen Thomsen, *Inward Investment in the European Community,* Royal Institute of International Affairs, 1991.

[11] United Nations, Center on Transnational Corporations, *World Investment Report: The Triad in Foreign Direct Investment,* July 1991, p. 32.

[12] American Chamber of Commerce in Germany, *The Federal Republic Of Germany As An Investment Location ("Standort" FRG),* September 1991.

[13] Stephen Thomsen, *Inward Investment in the European Community,* Royal Institute of International Affairs, 1991.

United States, Japan and other EC countries. Most FDI went into finance, real estate, business services, manufacturing, and construction.

Inward FDI in South Africa continued to stagnate in the late 1980s and early 1990s because of political uncertainties, even though many countries, including the United States, lifted most investment and trade sanctions against South Africa during 1991 and early 1992. (From 1986 until July 1991, the U.S. Comprehensive Apartheid Act prohibited new U.S. direct investment in that country.) Low earnings of existing foreign investments in South Africa also limited the growth of inward FDI. Despite these hindrances, the inward FDI stock increased slightly from 1985 to 1990, but South Africa's share of world inward FDI fell to less than 1 percent.

The Japanese government's efforts to promote inward FDI produced modest success. Its stock of inward FDI increased by only $5 billion between 1985 and 1990, and its share of the world inward stock of FDI remained at less than 1 percent.

Developing Countries

Developing countries attracted nearly twice the level of FDI inflows during the last half of the 1980s as in the first half. However, the majority of those inflows were concentrated in only a few countries in Asia--mainly Singapore, Hong Kong, China, Malaysia, Indonesia and Taiwan--and in the Western Hemisphere--primarily Argentina, Brazil, Mexico, Panama and a few tax haven Caribbean islands. Consequently, by 1990, the largest share of the total stock of inward FDI in all developing countries was in East Asian countries, rather than in Western Hemisphere countries (Figure 2-8).

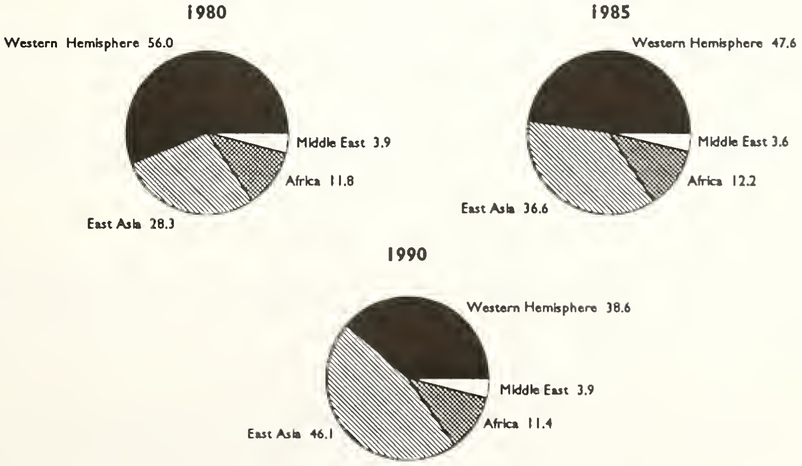
During the 1970s and early 1980s, natural resources and lower wages in Asian developing countries attracted FDI. More recently, their inward FDI has increased largely because of their faster economic growth, expanding domestic markets, large international trade volume, relatively few FDI restrictions, and an inward surge of Japanese investment.

Between 1985 and 1990, FDI in Western Hemisphere developing countries increased at about the same pace as in the early 1980s, mostly to Mexico, Argentina and Brazil. FDI in Africa and the Middle East did not rise sufficiently to prevent a decline in their already small shares of world inward FDI.

Relative Importance of FDI in Major Host Countries

Measurements of the relative importance of foreign-owned firms in host countries are hampered by the lack of data, or the lack of comparability between existing data. Thus, the relative shares of foreign-owned firms should be considered only as rough approximations of those firms' shares in each country's economy, and, in several instances, are available only for the manufacturing sector. Because of data limitations, only four types of share measures are estimated: two financial measures (assets and sales) and two economic measures (value added and employment). Assets and employment data are stock measures, recording the total level of foreign-owned firms' shares at any given point in time, whereas sales and value-added shares are flow measures for a given year.

Figure 2-8
World Inward FDI Stock, by Major Recipient Developing Regions
(In percent share)



Source: See Appendix C, Table 2-4.

In terms of the stock of FDI, despite the larger 1985-90 U.S. share of world FDI inflows than in earlier years, the United States hosted a generally equal or smaller amount of FDI stock in relation to the size of its economy than most other major industrial countries, with the exception of Japan. In addition, in terms of broad economic aggregates, and taking into account the differences in coverage shown in Table 2-2, foreign-owned firms' shares of the economies of Canada, France and the United Kingdom are much higher than their shares of the U.S. economy (Table 2-2).[14] FDI shares in the German economy are roughly in the same range as in the United States. FDI shares in Japan's economy are by far the lowest, although they increased slightly during 1985-90.

FDI in most industrial countries continued to account for larger shares of the manufacturing sectors than of their services sectors, despite the rising share of their total FDI in their services sectors during the 1980s. Foreign-owned firms' shares of value added in the U.S. manufacturing sector were much higher in 1989 (the latest data year) than for all industries, 13.4 percent versus 5.6 percent, respectively.

The very low shares of foreign-owned firms in Japan's economy reflects previous restrictions on inward FDI, as well as present difficulties of making acquisitions of Japanese companies by both foreign and domestic competitors due to organizational and cultural barriers. Prior to 1979, Japan restricted inward FDI, either by denying or delaying approval of proposed foreign investments, or by requiring foreign investors to accept only a minority ownership interest with Japanese partners. Foreign investors' difficulties in investing in Japan in the 1980s generally have been ascribed to informal Japanese barriers to inward investment. The Japanese cultural aversion to hostile takeovers and cross-shareholding among keiretsu[15] member companies leaves only a relatively small share of companies' common stock available for sale on the stock market. In addition, Japan's long-term supplier relationships, close ties between government and industry, and complex distribution system are considered imposing barriers, particularly to establishing new businesses.

Germany also has a relatively small share of its firms that are foreign-owned, compared with other European countries. Despite its relatively open economy, extensive

Table 2-2
Foreign-owned Firms' Shares in the Economies of Major Industrial Countries
(In percent)

	Assets		Sales		Value Added		Employment	
	1985	1990	1985	1990	1985	1990	1985	1990
Canada a)	23.3	26.2	29.0	26.9	44.0	na	34.4	na
France b)	26.2	28.4	26.7	28.4	25.3	27.1	21.1	23.7
Germany c)	7.1	8.7	14.3	14.0	na	na	6.9	7.8
Japan d)	0.6	0.9	0.9	1.2	na	na	0.3	0.5
United Kingdom e)	12.6	13.8	20.3	24.1	18.7	21.1	14.0	14.9
United States f)	8.8	18.6	8.0	16.4	8.3	13.4	8.0	10.8

In the following footnotes, year shown in parentheses is year for which data was collected. Unless otherwise indicated, data are for 1985 or 1990.

a) Canadian assets (1985,1988) and sales (1985,1988) are for all nonfinancial corporations; value added (1986) and employment (1986) are for manufacturing only.

b) French data are for manufacturing, mining and petroleum sectors only.

c) German assets and sales data are for all nonfinancial corporations; employment for total private sector.

d) Japanese data are for all industries.

e) U.K. data are for 1985 and 1989. Assets are for all large companies; sales, value added and employment for manufacturing only.

f) U.S. data are for manufacturing companies only, including producers of coal and petroleum products, on an industry of affiliate basis. Value added is for 1985 and 1989. Employment is industry of establishment basis. For all nonbank industries, value added is 4.3 and 6.0 percent, and employment is 3.4 and 5.0 percent, in 1985 and 1989 respectively.

"na" is not available.

Sources: Canada: assets and sales from *Corporations and Labor Unions Returns Act, Part I*; value added and employment from Government of Canada, unpublished data from Statistics Canada. France: Ministry of Industry, *SESSI*. Germany: FDI data from *Statistical Supplement to the Monthly Report of the Deutsche Bundesbank*, Series 3; domestic data from Deutsche Bundesbank. Japan: *Survey on Business Activities of Foreign Affiliates in Japan*. The United Kingdom: assets from *Corporate Finance (MA3)*; sales, value added and employment from *Summary of the Census of Production*. The United States: calculations based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce.

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[14] Note that, due to differences in definitions and methodologies, the FDI proportions shown in Table 2-2 are not fully comparable for each country--particularly for data for the total domestic economy or total domestic business. Nevertheless, the proportions are still useful as general indicators of FDI intensity among these countries.

[15] Keiretsu--which in Japanese means systemization--refers to various types of affiliations between Japanese companies in a wide range of industries. There are keiretsu in horizontal and vertical industry structure groups, and in the distribution system. For an analysis of the effects of keiretsu on Japanese FDI and trade see, Robert Lawrence, "Efficient or Exclusionist? The Import Behavior of Japanese Corporate Groups," Brookings Institution, March 1991.

cross-shareholding of voting stock among German companies, often by German banks, makes acquisitions more difficult in Germany compared with other European countries. Also, as mentioned previously, due to rising wages and stringent government regulations Germany has recently become less attractive as an investment location.

3

Developments and Trends in Foreign Direct Investment in the United States

by Kenneth J. Borghese*

Inflows of foreign direct investment into the United States (FDIUS) surged upward from $20 billion in 1985 to a $68 billion peak in 1989, and then decreased sharply to only $11.5 billion in 1991 and shifted to a net outflow of $3.9 billion in 1992--a net disinvestment (on a current cost basis). Reflecting these inflow trends between 1985 and 1991, the year-end position of FDIUS, measured in current cost terms, grew very rapidly from $231 billion in 1985 to $433 in 1989, and then slowed in growth to a record $487 billion position in 1991.[1]

Six countries have been the dominant sources of FDIUS growth--Japan, the United Kingdom, the Netherlands, Canada, Germany, and France. These countries accounted for roughly 90 percent of the increase in the FDIUS position between 1985 and 1991.[2] The largest share of the rise in FDIUS position was accounted for by Japanese direct investment, which more than doubled between 1985 and 1991 and accounted for 30 percent of the rise in FDIUS position during this period. The French share also rose significantly--increasing by more than 50 percent.

In contrast, U.S. direct investment abroad (USDIA) rose less rapidly than FDIUS between 1985 and 1991. Slightly more than 50 percent of total USDIA was made in six major countries. Moreover, there was little significant change in the country distribution of USDIA between 1985 and 1991, except for a relatively large rise in the Netherlands' share and a large decline in the Canadian share.

The sharp rise in FDIUS inflows between 1985 and 1989 occurred in most main U.S. industry sectors, with the largest share of those flows in U.S. manufacturing. The FDI share of U.S. manufacturing has roughly doubled between 1985 and 1991, stimulated significantly by the large 1985-87 depreciation of the dollar, which in turn reduced the cost of these investments to foreign buyers in terms of major foreign currencies. The 1990-91 slowdown in FDIUS inflows occurred in most of the main U.S. sectors, except in services and insurance--sectors which grew rapidly between 1988 and 1991. The 1990 and 1991 slowdown in FDI inflows was widespread across virtually all major source countries, except France.

While FDIUS has grown rapidly during the last decade, the 1990-91 U.S. economic recession slowed the growth of both U.S.-owned and foreign-owned firms. Moreover, the FDIUS share of the U.S. economy remains relatively small compared to that in other major industrial countries, except Japan.

Various structural and macroeconomic factors spurred the rapid 1980's increase in foreign direct investment in the United States, and its slowdown in the 1990s.

- Deregulation of domestic capital markets and cross-border financial transactions by major industrial nations, especially Japan, France, and Italy, stimulated a substantial rise in their outward investment, and continued liberalization of regulations on foreign direct investment in financial and insurance services increased the mobility and availability of capital for both financial and direct investment uses.[3]

- The generally faster rate of world economic growth during the latter half of the 1980s than during the first half (up 3.1 percent from 2.4 percent) spurred foreign firms' outlays for new establishments and acquisitions. Beginning about 1990, however, world FDI flows began a sharp slowdown as a result of the slowdown in GDP growth in the United States, the United Kingdom, and Canada, coupled with the political turmoil of German

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[1] FDI inflows typically do not equal the change in FDI position for the same period because of valuation adjustments and other factors. For example, the FDIUS year-end position on a current cost basis increased $20.5 billion between 1990 and 1991, while net FDI capital inflows amounted to $11.5 billion in 1991.

[2] Data in this chapter on FDI inflows and positions at the disaggregated country or industry levels are on a historical cost basis as these disaggregated data are not reported by companies to BEA on a current cost or market value basis.

[3] See U.S. Department of Commerce, Economics and Statistics Administration, Office of the Chief Economist, *Foreign Direct Investment in the United States*, August 1991, Chapters 2 and 3.

reunification and immense capital requirements, and the emerging asset deflation in Japan.

- Depreciation of the U.S. dollar since early 1985 increased the attractiveness of foreign investments in the United States, by lowering the foreign currency acquisition cost of U.S. assets and by reducing production costs relative to those in other major industrial countries.

- The open U.S. investment climate and desire by foreign multinational corporations to better serve the large U.S. market spurred cross-border mergers and acquisitions, as they sought to strengthen ownership advantages in distribution systems and wholesale trade.

- The threat of increased U.S. import restrictions and voluntary export restraints may have also encouraged strategic acquisitions and establishment of U.S. facilities in several U.S. industries by multinational enterprises, especially Japanese firms in automotive assembly and ferrous metals.

Total FDI in the United States

The internationalization of production by the world's largest corporations in the 20th century is a continuation of a process already underway in the late 19th century. In the 1950s and 1960s, the rapid globalization of international production was led by many U.S.-owned firms and quickly followed *en mass* by foreign-owned corporations. In the 1960s, U.S. outward direct investment grew rapidly, with U.S. firms accounting for about one-half of the world's direct investment outflows. By the 1980s, the United States was receiving about one-half of the world's direct investment inflows, reflecting a rapid rise in foreign firms' presence in the U.S. economy.

FDIUS capital inflows fluctuated irregularly between 1982 and 1985--averaging $17 billion annually on a current cost basis. Between 1985 and 1989, those inflows surged very sharply upward--more than tripling from $20 billion in 1985 to a peak of $68 billion in 1989. FDI inflows then slowed from their $68 billion peak in 1989 to $45 billion in 1990, and fell further to $11.5 billion in 1991, the lowest direct investment inflow since 1983 (Figure 3-1). In 1992, FDIUS continued its sharp decline, shifting from an inflow to a minus $3.9 billion, the first disinvestment of FDIUS since the 1940s.[4] The slowdown was broad based across most U.S. industrial sectors and the main FDIUS source countries.

The accumulated stock of FDIUS on a current cost basis rose by 84 percent between 1980 and 1985 from $126 billion to $231 billion, and rose between 1985 and 1991 by 111 percent to $487 billion in 1991. Among other factors, shifts in stock reflect the large capital inflows and the revaluation of tangible assets at replacement cost.

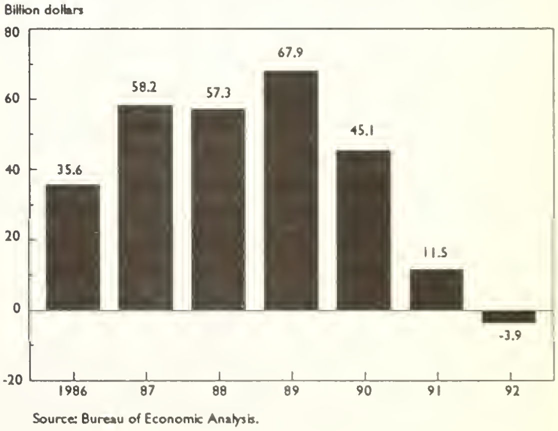
In 1991, the United States remained the world's largest host country of FDI and the largest source country for direct investment abroad. Reflecting the more rapid rise of inflow than outflow since 1985, the relative size of FDIUS to USDIA has risen by 14 percent. Between 1985 and 1991, the FDIUS stock had quickly risen from 60 percent to nearly 74 percent the size of the USDIA stock (in current cost terms).

Recent FDI Inflow Components Decline

Between 1989 (the net FDIUS inflow peak) and 1992, net overall annual inflows fell by $72 billion. The annual inflows of foreign direct investment in the United States (FDIUS inflows) are determined by the amount of equity inflows, changes in intercompany debt, and reinvested earnings. All three components shrank sharply between 1989 and 1992 (Table 3-1).[5] Net equity inflows fell $35 billion, "reinvested earnings and losses" shifted negatively an additional $6 billion, and net intercompany debt flows (mainly U.S. affiliates' payables to foreigners, which are capital inflows) dropped $31 billion.[6]

Several major factors underlie the 1991-92 slowdown in FDIUS inflows, including completion of foreign-owned investment projects begun in the 1980s, and the U.S. economy's recession, that in turn reduced businesses' ability to finance expansion from retained earnings and

Figure 3-1
FDIUS Inflows, Current Cost Basis, 1986-92



Source: Bureau of Economic Analysis.

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[4] Detailed FDIUS data covering 1992 was not available when this report was being drafted.

[5] For a detailed discussion, see Mahnaz Fahim-Nadar, "U.S. Business Enterprises Acquired or Established by Foreign Direct Investors", in *Survey of Current Business*, May 1992, pp. 69-79.

[6] See Howard Murad, "U.S. International Transactions", in *Survey of Current Business*, June 1992, Table 5, lines 56-63, p.100.

Table 3-1
FDIUS Capital Flow Components, Current Cost Basis
(Billion dollars)

	1989	1990	1991	1992	1989-92 change
Net FDI capital inflows	67.9	45.1	11.5	-3.9	-71.8
Equity inflows	51.8	57.0	27.9	16.7	-35.1
Reinvested earnings & losses	-8.5	-16.3	-20.0	-14.1	-5.6
Net change in intercompany debt	24.6	4.4	3.6	-6.5	-31.1

Source: Bureau of Economic Analysis, *Survey of Current Business*, June 1992, Table 5, lines 55-62, p.100.

generally contracted U.S. bank lending. It also reflects generalized asset deflation in Japan and a reduction in overseas lending by Japanese banks, as well as a more inward looking investment behavior of a unified Germany.

Alternate Measures of the Aggregate FDIUS Position

The Bureau of Economic Analysis has placed increased emphasis on a "current cost" basis for reporting the overall FDIUS flows and stock data, which takes account of the estimated increase in the cost of replacing U.S. affiliates' tangible assets, as opposed to two alternate measures: historical cost and market value. Briefly, "historical cost" is the cumulative book-value of FDIUS at the time of the transaction, which, for acquisitions, is generally lower than current cost. "Market value" reflects changes in equity prices, and is generally higher than current cost.[7] Current-cost and market value estimates of the FDI position are reported by BEA only at the aggregate level, and not by country or by industry. The differences in value between historical cost versus current cost and market value for each year appears to be greater for U.S. direct investment abroad (USDIA) than FDIUS, because U.S. direct investments abroad are generally older than foreign investments in the United States. FDIUS data classified by country and industry are only available on a historical cost basis, as it is the only basis available in such detail from company accounting records.

Between 1985 and 1991, the current-cost position of FDIUS rose by about the same amount as its historical cost, but by two-fifths less than its market value. The higher rise in market values of the FDIUS position reflects the rapid 1989-91 run-up in U.S. equity prices (Table 3-2).[8]

Table 3-2
Foreign Direct Investment Position in the United States and the U.S. Position Abroad on Alternative Bases, 1985-91
(In billion dollars)

	1985	1987	1989	1990	1991	1985-91 change
Current cost:						
FDIUS	231.3	313.5	433.2	466.5	487.0	+255.7
USDIA	387.2	493.3	552.8	623.6	655.3	+268.1
Market value:						
FDIUS	220.0	316.2	534.7	536.6	654.1	+434.1
USDIA	379.1	577.0	807.9	716.4	802.0	+422.9
Historical cost:						
FDIUS	184.6	263.4	368.9	369.7	407.6	+223.0
USDIA	230.3	314.3	372.4	424.1	450.2	+219.9

Source: *Survey of Current Business*, June 1992, page 49, Table 3, and page 53, Table 5, *FDIUS Slowdown in Most Industrial Sectors.*

FDIUS Changes in Individual Industries

The 1990-91 slowdown in FDI inflows occurred in most of the largest U.S. industrial sectors, except banking and finance, with the largest total dollar declines occurring in the manufacturing and services sectors (Table 3-3). From its 1989 peak to 1991, overall direct investment inflows declined by $56 billion--$32 billion in the manufacturing sector, $9 billion in finance, $6 billion in services, and $4.5 billion in real estate. Slower economic activity in the United States and abroad, declines in Japanese commercial real estate values and stock market prices, and reduced lending by major foreign lending

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[7] The market-value series is only available beginning in 1982 because separate information on equity flows and positions of unincorporated affiliates was not available for earlier periods.

[8] For a discussion of the differences in trends and levels of the FDIUS position, in terms of their current cost, market value, and historical value, see Russell B. Scholl, Raymond J. Mataloni, Jr. and Steve D. Bezirganian, "The International Investment Position of the United States in 1991," in *Survey of Current Business*, June 1992, pp. 46-59.

Table 3-3

FDIUS Inflows, Selected Sectors, 1988-1991 (Billion dollars)

	1988	1989	1990	1991	1989-91 change
All Sectors	58.6	69.0	46.1	12.6	-56.4
Subtotal, of 6 sectors	53.2	66.5	38.8	12.6	-53.9
Manufacturing	31.9	38.6	16.7	6.6	-32.0
Banking	2.7	2.2	0.8	1.9	-0.3
Finance	0.6	11.2	-2.4	2.5	-8.7
Real Estate	3.2	3.8	6.1	-0.7	-4.5
Wholesale Trade	6.0	4.3	7.1	2.2	-2.1
Services	8.8	6.4	10.5	0.1	-6.3

Source: Bureau of Economic Analysis.

institutions, have significantly contributed to reduced FDI inflows into most U.S. sectors since 1989.

Even though the inflows slowed in 1990 and 1991, they continued to add to the accumulated value of foreign direct investment in the United States, only at a slower rate of increase. The FDIUS position in all major sectors also continued to rise in both years.

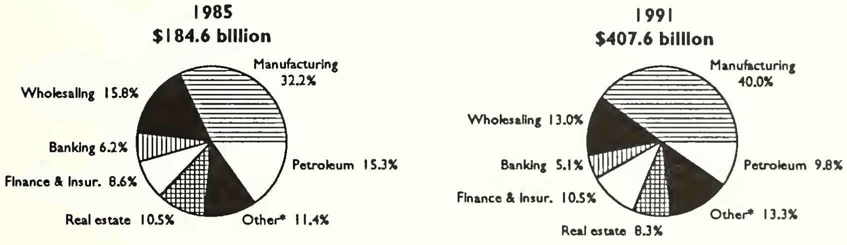
The FDIUS inflows have been broad based across most U.S. industrial sectors. Several important shifts occurred in their composition between 1985 and 1991, with the shares in wholesaling, petroleum, and real estate falling, and the shares rising in manufacturing, finance, insurance, and other industries (other services and mining), suggesting a gradual evolution from marketing and distribution to production of goods and services (Figure 3-2A). In comparison, the shifts in the composition of USDIA shares over the same period where quite different, with a small decline in the shares in manufacturing and petroleum, and very large increases in the shares held in the service sector--finance, insurance, and real estate (Figure 3-2B).

In 1991, the FDIUS position in the U.S. manufacturing sector reached $163 billion, on a historical cost basis, and remained at about 40 percent of total FDIUS, a far larger share than that of any other U.S. sector. Within manufacturing, the composition of both FDIUS and USDIA changed little between 1985 and 1991 (Figures 3-3A and 3-3B). The largest direct investment position in manufacturing was in the chemicals industry, at $49 billion, which accounted for 12 percent of the total FDIUS position.

It is publicly well known that a number of affiliates in the U.S. chemicals industry have been owned by three very large German chemical companies, including Bayer, BASF, and Hoescht, and further foreign investment in this

Figure 3-2A

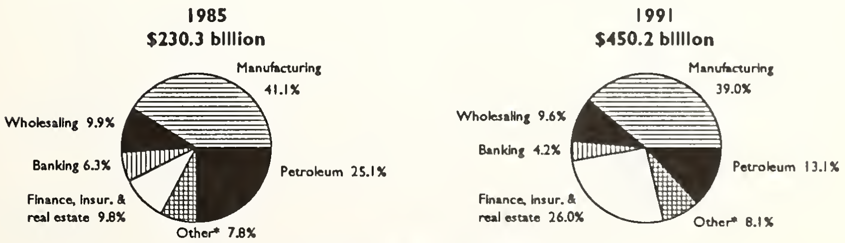
FDIUS Position, by Industry of Affiliate, 1985 and 1991 (Historical cost and percent share)



*Includes services, retailing and mining.
Source: Bureau of Economic Analysis.

Figure 3-2B

USDIA Position, by Industry of Affiliate, 1985 and 1991 (Historical cost and percent share)



*Includes services, retailing, and mining.
Source: Bureau of Economic Analysis.

U.S. industry--led by Germany--accelerated during the 1980s, jumping by 59 percent from 1988 to 1991 alone. During 1988-91, foreign investment positions also rose rapidly in primary and fabricated metals, and food and kindred products, led by investments from the U.K., France, and the Netherlands.

The FDIUS position in the wholesale trade sector grew by 21 percent between 1988 and 1991 to $53 billion, yet its share of total FDIUS fell to 13 percent.[9] Its decreased share reflects an apparent growing preference among some foreign-owned multinational companies to locate production facilities in the United States. Thus, "onshore" production increasingly supplemented their wholesale distribution of imports, as in the case of Japanese-owned U.S. auto production.

While the FDIUS position in the petroleum industry is nearly as large as in wholesaling, it was only 11 percent higher in 1991 than in 1988, reflecting the slowest growth among all sectors. The FDIUS position in the petroleum sector was $40 billion in 1991--10 percent share of total 1991 position, and only one percentage point less than in 1988.

The FDIUS positions in the service and insurance sectors have been small compared to that in manufacturing; however, they surged much more rapidly than in any of the other sectors, rising between 1988 and 1991 by 65 percent in services and 75 percent in insurance. The services position rose from $19 billion in 1988 to $32 billion in 1990, with investments mainly from the United Kingdom, Japan, and the Netherlands that flowed mainly into hotels, business services, and the motion picture industry. The insurance position reached $33 billion in 1991, reflecting a large jump in foreign investments in 1991 that was mainly from the United Kingdom, the Netherlands, Germany, and France, and mainly in property, life, and casualty insurance.

The investment position in real estate grew 30 percent from 1988 to 1991, to $34 billion, although its 8 percent share of total FDI has remained relatively constant since the mid 1980s. One of the more publicly recognized examples was the Mitsubishi Estate Company Ltd.'s acquisition of Rockefeller Center. The continuing slump in commercial real estate values in the United States is expected to restrain the growth of foreign investment in this sector.

The retail trade foreign direct investment position dropped by 32 percent since 1988 to a level of $6.7 billion.

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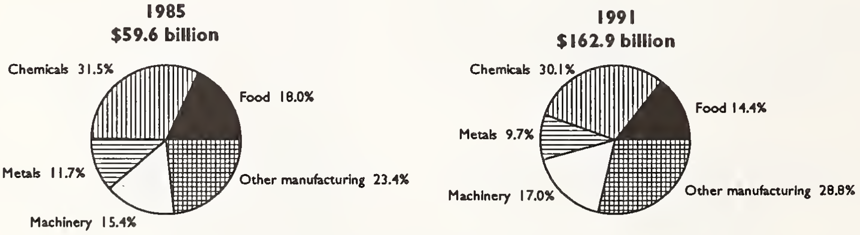
[9] Since the FDI position figures are compiled at the enterprise level, some manufacturing investment, particularly in Japanese automobile assembly, is contained in the wholesale trade figures for those firms where wholesaling is the major activity of the U.S. affiliate.

Figure 3-3A

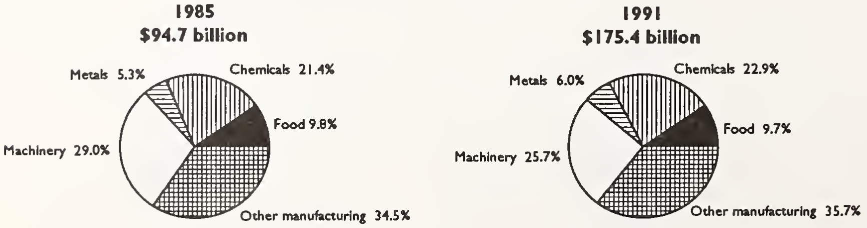
FDIUS Position in Manufacturing by Industry of Affiliate, 1985 and 1991
(Historical cost and percent share)



Source: Bureau of Economic Analysis.

Figure 3-3B

USDIA Position in Manufacturing, by Industry, 1985 and 1991
(Historical cost and percent share)



Source: Bureau of Economic Analysis.

This contraction reflects primarily the decline in the value of Canadian investments in retail trade. Financial restructuring of Canadian enterprises, generally involving highly leveraged transactions, appears to account for most of the decline in the direct investment position in this industry.[10]

The FDIUS position in the banking industry rose by 22 percent between 1988 and 1991 from $17 billion to $21 billion. The 1991 rise in inflows, following the 1990 drop in inflows, in the banking sector probably largely reflects increased capital inflows to foreign-owned banks needed to meet the risk-adjusted capital requirements that began phasing in that year. The FDI data on banking cover only permanent invested capital, and not the substantially larger foreign shares of business lending between parent banks and their U.S. affiliates in the conduct of their normal banking business. Such lending is included in portfolio investment, not in direct investment, in U.S. statistics. (See Chapter 4 of this report for an analysis of foreign banking in the United States.)

Regional Changes in FDIUS Sources

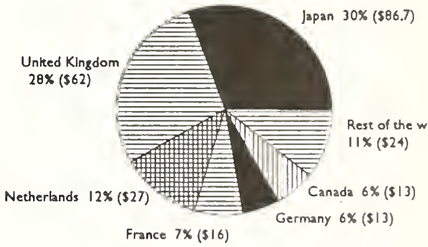
Six Countries Dominate FDI Position Growth

FDIUS is highly concentrated among six countries -- Japan, the United Kingdom, the Netherlands, Canada, Germany, and France. These six countries accounted for nearly 90 percent of the 1985-91 rise in the FDIUS position and 83 percent of the 1991 position (based on historical value) (Figure 3-4). The rise in position was led by Japan (30 percent) and the United Kingdom (28 percent).

Inflows from the United Kingdom peaked in 1987, and continued to lead in value through 1989 (Table 3-4). Inflows from Japan peaked in 1987 and fell sharply in 1991. Those from other countries generally peaked about 1989; however, those from Canada peaked in 1987, and in 1991 shifted to a negative value, as did the aggregate for "all other" nations.

The United Kingdom retained the largest share of the overall FDIUS position between 1985 and 1991, reaching 26 percent in 1991. The second largest and most rapidly rising position of the major countries was held by Japanese firms, rising from 10.5 percent to 21.3 percent. French firms' share, although much smaller, also rose rapidly, rising from 3.6 percent to 5.6 percent (Figure 3-5A). The United Kingdom position share increased slightly. The other major investing countries, the Netherlands,

Figure 3-4
Share of Total Increase in FDI Position, 1985-91
Six Major Countries
(Percent share & billion dollars)



Source: Bureau of Economic Analysis.

Table 3-4
FDIUS Inflows, by Principal Source Countries,
Foreign Parent Group Basis, 1985-91
(Billion dollars on historical cost basis)

Country	1985	1986	1987	1988	1989	1990	1991
All Countries	20.5	36.1	59.6	58.6	69.0	46.1	12.6
Of which:							
United Kingdom	5.2	11.3	25.6	19.6	18.9	5.2	4.2
Japan	3.4	7.0	8.8	17.2	18.7	17.4	5.2
Netherlands	2.9	4.4	8.4	6.1	7.3	6.4	*
France	**	1.0	3.2	3.1	2.7	5.7	3.7
Germany	2.1	2.2	4.6	2.2	3.7	0.7	1.3
Canada	0.8	2.5	4.3	1.9	1.8	1.4	-1.3
All other	6.1	7.7	4.7	8.5	15.9	9.3	-0.5

* 0.03
** 0.04
Source: Bureau of Economic Analysis.

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[10] Except for 1990, European investment in retail trade also declined absolutely every year since 1988. However, inflows from third-country sources such as the Netherlands Antilles, and U.K. Islands in the Caribbean were probably from European source countries.

Germany, and Canada, showed declines in their shares of total FDIUS.

In contrast to FDIUS, the USDIA position rose less rapidly in value between 1985 and 1991. Unlike FDIUS, the six largest destination countries for USDIA accounted for a far smaller share of the total position -- only slightly more than 50 percent of the total (Figure 3-5B). Moreover, the USDIA national shares generally changed much less than in FDIUS, with the largest share shifts being a large increase in the Netherlands' share and a large decline in the Canadian share.

The slowdown in net FDIUS capital inflows in 1990 and 1991 was widespread across virtually all major source countries, except for France. France supplied significantly increased inflows in both years. Relatively large increases also occurred in inflows from the Netherlands Antilles and Panama in 1990, and inflows decreased from both countries in 1991. Both countries are generally regarded as tax and regulatory havens.[11] Total FDI inflows from Canada had been declining for several years and, in 1991, were actually negative in value, partly because of negative reinvested earnings in Canadian-owned U.S. firms in the U.S. retail trade and real estate sectors.

FDIUS inflows from the United Kingdom -- traditionally the largest inflow source -- fell sharply to a $5 billion average in 1990 and 1991, which is less than one-fourth their 1987-89 average pace (Figure 3-6). Inflows from the Netherlands also fell in 1991 to a virtually negligible $29 million from a $6 billion average during 1985-90, led by investments in manufacturing, wholesaling, finance, and services. In contrast, inflows from French sources appear the least affected by the general downturn in 1991, remaining roughly at their 1987-89 level, although still lower than a brief but large run-up in 1990, into the petroleum, manufacturing, and services sectors.

The U.K. position of $106 billion rose $3 billion between 1989 and 1991, and remains broadly dispersed across industries, with the largest shares in petroleum, chemicals, other manufacturing, services, and insurance. The German position, concentrated in chemicals, wholesale trade and insurance, has remained roughly constant since 1989 at $28 billion. The Netherlands position in 1990 and 1991 at $64 billion, was up from $57 billion in 1989. France increased its FDI position from $15.4 billion in 1989 to $23 billion in 1991, with most of the investment concentrated in manufacturing, petroleum, and services.

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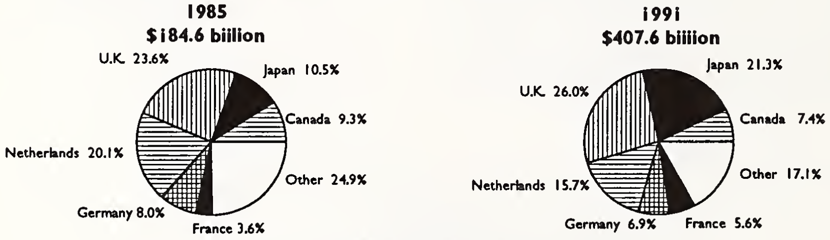
[11] Panama and the Netherlands Antilles typically serve as intermediary country sources of FDIUS for persons or firms who choose to invest in the U.S. through third countries for tax, privacy, or business organization reasons.

Figure 3-5A

FDIUS Positions, by Major Source Country, 1985 and 1991

(Historical cost and FPG country percent share)



1985
$184.6 billion

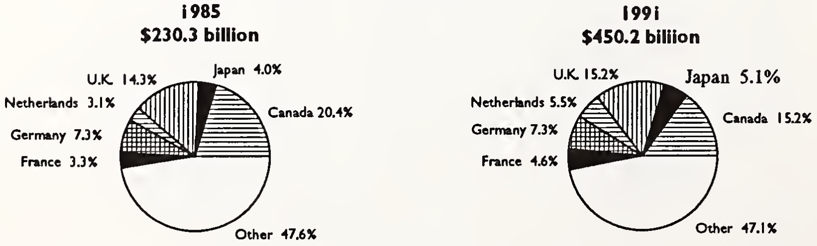
1991
$407.6 billion

Source: Bureau of Economic Analysis.

Figure 3-5B

USDIA Positions, by Country, 1985 and 1991

(Historical cost and percent share)

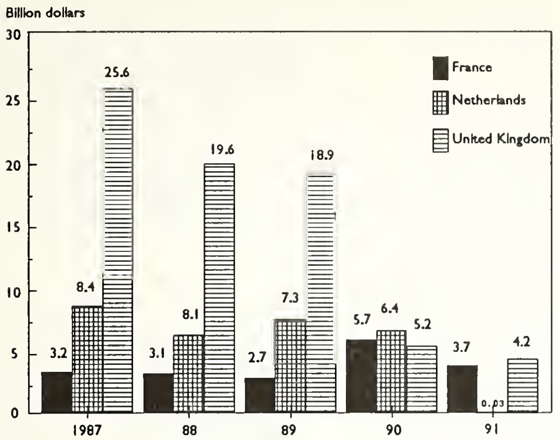


1985
$230.3 billion

1991
$450.2 billion

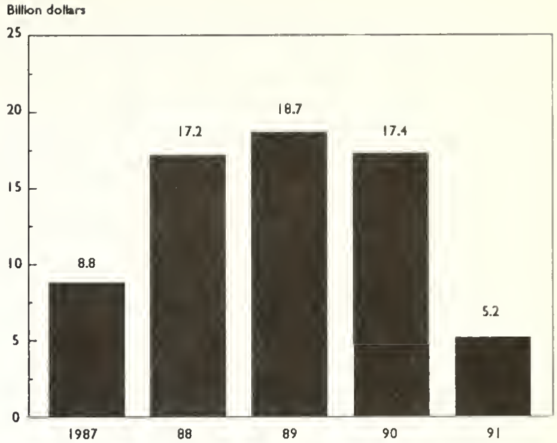
Source: Bureau of Economic Analysis.

Figure 3-6
FDI Inflows from Selected European Countries, 1987-91



Source: Bureau of Economic Analysis.

Figure 3-7
FDI Inflows from Japan, 1987-91



Inflows from Japanese sources climbed to an $18 billion annual average during 1988-90, before falling to $5.2 billion in 1991 (Figure 3-7). Japanese FDIUS inflows through 1989 had been mainly in the manufacturing, wholesale trade, finance, and real estate sectors, and in a number of high-profile purchases of movie companies by Sony and Matsushita in the services sectors. The largest shares of the rise in Japanese inflows were in manufacturing (particularly in automotive assembly and ferrous metals) and wholesale trade (largely Japanese-owned companies principally in the business of importing) (Table 3-5). In 1990 and 1991, Japanese-sourced inflows in manufacturing dropped sharply,[12] and in wholesale trade, rose in 1990, but dropped sharply in 1991. Overall Japanese sourced FDI inflows in real estate were negative in 1991, because of losses incurred by their U.S. affiliates.

Table 3-5
FDI Capital Inflows from Japan, 1988-91
(Billion dollars)

	1988	1989	1990	1991
All Industries	17.2	18.7	17.4	5.2
Manufacturing	5.8	5.2	2.3	1.4
Wholesale Trade	2.5	3.0	4.9	1.3
Other sectors	8.9	10.5	10.2	2.5

Source: Bureau of Economic Analysis.

Canadian direct investment in the United States grew steadily to a $30.4 billion position peak in 1989, and then edged down to about $30 billion in 1990 and 1991. Canadian FDI inflows have been concentrated in petroleum, other manufacturing, insurance, real estate, and retail trade. Recent decreases in the value of Canadian-owned U.S. commercial real estate, such as the widely publicized problems with Olympia-York, and disinvestment since 1988 in U.S. retail trade, partly reflect ongoing problems with the restructuring of large leveraged investments. Canadian investments in these two sectors were undertaken at the peak of the activity in mergers and acquisitions in the United States during the 1980s.

The FDIUS position of direct investments from Middle-Eastern sources also fell sharply between 1989 and 1991, down from $7.6 billion to $4.8 billion. Kuwait, Saudi Arabia, and, to a lesser extent, Israel, account for the bulk of Middle East FDIUS. Both Kuwait and Saudi Arabia decreased their investment in the United States during the Gulf conflict of 1990. Kuwaiti and Saudi Arabian foreign direct investment is believed to be concentrated primarily in petroleum and real estate; however, BEA's disclosure rules on individual company data preclude a complete breakdown of the data by industry. Israeli sources raised their direct investment position by $451 million to $1 billion in 1991, with about three-fourths of its position in the U.S. banking industry.

Statistical Basis Affects Country Shares

Tracking country ownership of FDIUS is complicated by financing arrangements under which foreign parent firms can use third-country foreign affiliates as a vehicle to make direct investments in the United States. Foreign affiliates in the Netherlands, and tax and regulatory havens such as Panama and the Netherlands Antilles have served as intermediaries for some FDIUS. To clarify the ultimate upstream origins of such capital flows, the Bureau of Economic Analysis, in addition to reporting FDIUS by country of foreign parent group (FPG), also traces these investments back to the country of ultimate beneficial owner (UBO).[13] The UBO-based data are not published for years prior to 1987.

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[12] Because of the BEA methodology used to assign sectoral classifications to enterprises, the increase in FDIUS in the manufacturing sector may be understated because those data exclude enterprises that are mainly engaged in wholesale trade but that have secondary activities in manufacturing. For example, several Japanese-owned enterprises are classified as wholesalers, although they are also motor vehicle manufacturers.

Of the six major FDIUS investing countries, in 1991, the Japanese, French, German, and Canadian positions were higher on a UBO basis than on the initial FPG basis. The UBO shares were lower for the United Kingdom and the Netherlands (Table 3-6). While the FPG and UBO based shares have both changed in recent years, the relative differences in share sizes for each country have not greatly changed over time.

Table 3-6
FDIUS Positions, by Basis of Ownership in 1991 (Billion dollars and percent shares on historical cost basis)

Country	FPG Basis* Position	FPG Basis* Share	UBO Basis* Position	UBO Basis* Share
All countries	407.6	100.0	407.6	100.0
Of which:				
United Kingdom	106.1	26.0	98.9	24.3
Japan	86.7	21.3	88.9	21.8
Netherlands	63.8	15.7	42.1	10.3
France	22.7	5.6	27.1	6.6
Germany	28.2	6.9	33.3	8.2
Canada	30.0	7.4	40.7	10.0

*FPG = foreign parent group; UBO = ultimate beneficial owner.
Source: Bureau of Economic Analysis.

FDI Posts Rising Shares in the U.S. Economy

The rapid rise in FDIUS during the last few decades is reflected in the very small but rising share of FDIUS in the total U.S. domestic wealth. The share of FDI, on a current-cost basis, in U.S. domestic wealth more than doubled from 1.2 percent in 1980 to a peak share of 2.7 percent in 1991 (Table 3-7).2[14] This share is smaller than in all other major industrial countries, except Japan, even though, in absolute value terms, the United States continues to hold the largest inward FDI position among industrial countries.

Table 3-7
Estimated FDI Shares of Net Worth in the United States (Percent)

	1980	1985	1990	1991
FDI shares of--				
Domestic net worth	1.2	1.6	2.6	2.7
Private sector net worth, excluding households and non-profit institutions	2.3	3.6	6.1	6.6

Sources: Bureau of Economic Analysis and Federal Reserve Board *Balance Sheets for the U.S. Economy*, March 1993.

Because FDIUS is not evenly spread across all sectors of the U.S. economy, comparing this FDI total against total U.S. domestic net worth tends to understate their participation at a more disaggregated level. The size of total FDIUS relative to the economy is much higher when measured as a share of U.S. private sector net worth (excluding households and nonprofit institutions), rising from 2.3 percent in 1980, to 6.1 percent in 1990, and to 6.6 percent in 1991. The 1990-91 ratio increase primarily reflects the effect on U.S corporations' net worth of the recent general decline in commercial real estate values.

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[13] The Netherlands position is significantly lower when using alternate UBO position classifications, because other countries sometimes "route" their investment into the U.S. through holding companies in the Netherlands. An example of this is the publicly reported acquisition of Du Pont Chemicals in 1981 by a Canadian company through a Netherlands holding company.

[14] According to the Federal Reserve Board flow of funds definition, domestic Net Worth equals the sum of total tangible assets (i.e. residential structures, plant and equipment, inventories, consumer durables, and land) plus U.S. monetary gold and Special Drawing Rights. Source: Federal Reserve Board, *Balance Sheets for the U.S. Economy*, March 1993.

4

Operations of Foreign-Owned Firms in the United States

This chapter is in two parts, in order to reflect key differences in the sources of the primary data used to analyze the operations of foreign-owned U.S. nonbank and banking firms. The analysis of the operations of nonbank firms is primarily based on data produced by the Department of Commerce's Bureau of Economic Analysis. Data on banking firms are compiled from the Federal Financial Institutions Examination Council (FFIEC) reports and other bank sources. While the size of both groups can be generally measured in terms of employment, several other typical measures of size and operations are not comparable. The size of nonbank firms is often measured in terms of total or physical assets, sales, imports and exports. In contrast, the size of banks is usually measured in terms of financial assets.

U.S. banking affiliates employ only a small fraction of the number of workers employed by nonbank affiliates, but their asset holdings are more than half as large, and their business activity nearly half as large, as that of the nonbanking affiliates.

- In 1990, U.S. affiliates in the nonbank sector employed twenty times more workers than did foreign-owned firms in the banking industry.

- In 1990 the assets of foreign-owned nonbank firms reached a record $1,529.8 billion, while the total financial assets, including estimated offshore lending, of foreign-owned banking firms reached $939.1 billion.

- As a rough gauge of their relative size -- in 1990, the sales by foreign-owned nonbank firms amounted to $1,168.5 billion and loans by foreign-owned banking firms amounted to $545.9 billion.

The relative importance of both types of foreign firms in their respective U.S. industry groups was small, although their importance was relatively greater in the banking than nonbanking sector. In 1990, all nonbank U.S. affiliates accounted for 6 percent of nonbank private industry gross domestic product and 5 percent of total nonbank private employment. Affiliates represented 14 percent of U.S. manufacturing industry gross domestic product, 11+ percent of total U.S. manufacturing employment, and 16 percent of all manufacturing sales. In comparison, in 1990, foreign banking firms in the United States accounted for 23 percent of total U.S. loans, 24 percent of total assets held by banks in the United States, and, as recently as 1987, 7 percent of total employment in U.S. banking.

4A

Business Activity of Nonbank Foreign-Owned Firms

*by Gerald R. Moody**

The aggregate business activity of U.S. nonbank affiliates of foreign firms grew substantially over the past decade. These affiliates remain, nonetheless, a small share of the U.S. economy as a whole.

This chapter provides an overview of changes in the operations and performance of U.S. affiliates of foreign firms in the past decade and examines the affiliates' effects on the U.S. economy. It reviews the importance of acquisitions in the growth process, the growing importance in the U.S. economy of affiliates with Japanese owners, and the small role that foreign government ownership of U.S. affiliates plays. This chapter also examines the growing relative importance of affiliates in such industries as chemicals and petroleum and coal products.

In summary, the affiliates have made a positive contribution to the U.S. economy. In 1990, they provided employment for 4.7 million Americans, and spent $68 billion for new plant and equipment, and spent $11 billion for research and development. And they have helped to increase competition in many industries, thereby benefitting consumers through lower prices and higher product quality.

The affiliates' contribution in large part reflects the competitive advantages that foreign firms enjoy in certain industries. These advantages may take the form of access to low-cost capital, an advantage in capital-intensive industries; strong research capabilities, an advantage in chemicals manufacturing; innovative products, an advantage in consumer electronics; or careful attention to product quality, an advantage in motor vehicle manufacturing. As affiliates with these kinds of advantages have become an integral part of certain U.S. industries, their role in the U.S. competitive process has grown in importance.

During the 1980s, the affiliates on average invested more in plant and equipment per dollar of gross product than U.S.-owned firms. In manufacturing alone, the affiliates recently spent more on plant and equipment per dollar of value added, and about as much on R&D per dollar of sales, as U.S.-owned firms.

In general, the industries in which the affiliates account for relatively large shares of employment pay higher compensation per employee, and U.S. affiliates have higher average labor productivity, than U.S. industry as a whole. Based on newly available establishment-level data for affiliates, it appears that, when the industrial composition of the affiliates is taken into account, the affiliates are much like U.S.-owned firms in terms of worker compensation. This likeness might be expected since so much of the growth in affiliate activity has been accounted for by acquisitions of existing U.S. companies.

Nevertheless, important differences exist within certain industries. For example in motor vehicles manufacturing, average compensation per employee has been lower for the affiliates than for U.S.-owned establishments. Also, in manufacturing industries that have the lowest average compensation per employee, the affiliates tend to pay higher compensation per employee than their U.S.-owned counterparts, indicating that the affiliates are probably specialized, skill-intensive operations.

Perhaps most notable, compared to U.S.-owned businesses, the affiliates continue to have greater international trade orientation. In the aggregate, the affiliates' share of the total U.S. merchandise trade deficit has been rising, reaching 88 percent in 1990. In 1990, Japanese-owned affiliates, many of which are mainly trading companies that import goods for sale in this country, accounted for 49 percent of the trade deficit; 83 percent of the imports by affiliates of Japanese firms were from their parent firms in Japan.

General Trends in Operations of Nonbank Foreign-owned Firms

Growing Economic Importance

The importance of foreign-owned U.S. businesses in the U.S. economy grew at a faster pace in the late 1980s than in the mid-1980s, although not as fast as in the several years prior to the 1982 recession. Between 1987 and 1990, the annual gross product (value added) of the U.S. nonbank affiliates increased from $158 billion to $241 billion (in current dollars), averaging 15.2 percent per year. The U.S. affiliates' share of total U.S. nonbank private gross prod-

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* Senior Economist, Office of Policy Analysis, Economics and Statistics Administration, U.S. Department of Commerce.

Table 4A-1
Estimated Shares of Nonbank Affiliates of Foreign Companies in Selected U.S. Economic Indicators
(In Percent)

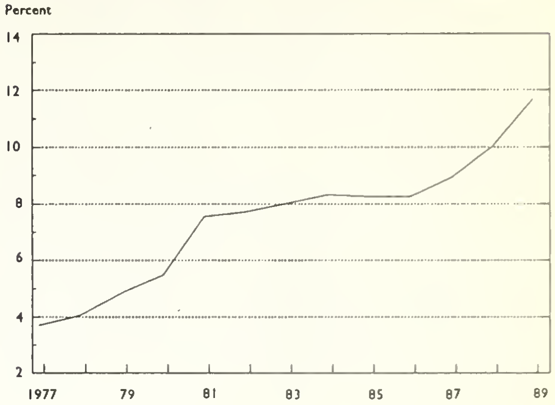
	1980	1987	1989	1990
Total U.S. gross domestic product	2.6	3.5	4.3	4.6
All nonbank private Industry:				
Gross domestic product	3.4	4.3	5.6	6.0e
Employment*	2.7	3.7	4.8	5.0
New plant & equipment expenditures**	5.5	7.6	10.4	12.2
R&D expenditures	6.4	10.6	13.4	15.4
Manufacturing Industry:***				
Assets	8.3	13.2	17.6	18.6
Sales	7.1	11.4	15.2	16.4
Gross product	7.9	10.4	13.4	14.0e
R&D expenditures****	5.7	9.7	13.4	14.9
Total merchandise trade:				
Exports	23.1	18.9	23.7	23.2
Imports	30.9	35.3	36.3	36.5

e = estimated
n.a. = not available.
* Excludes employment in Puerto Rico, and in "other territories and offshore".
** Excludes agriculture.
*** Based on industry of enterprise for affiliates and industry of establishment for all manufacturing.
**** Petroleum and coal products manufacturing have been excluded because separate affiliate data for these industries are not available for 1986.
Note: Nonbank private industry gross product is total gross domestic product minus the gross product of banks, government and government enterprises, private households, imputed GDP of owner-occupied housing, rental income of persons, business transfer payments, subsidies, and the statistical discrepancy.
Sources: U.S. Department of Commerce, Bureau of Economic Analysis and Bureau of the Census; and National Science Foundation.

uct almost doubled between 1980 and 1990, rising from 3.4 percent to an estimated 6.0 percent (Table 4A-1).

The affiliates' share of the gross product in U.S. manufacturing (an estimated 14 percent in 1990) is far higher than their share of the value added of all other nonbank business, reflecting the greater concentration of affiliate investment in manufacturing (Figure 4A-1).

Figure 4A-1
Affiliates' Share of Manufacturing Value Added (Excluding petroleum & coal products manufacturing; based on current dollar values)



The slowdown in the growth of foreign-owned firms beginning in 1989 is readily evidenced by data on outlays for new affiliates. Outlays for nonbank businesses[1] dropped to only $22.2 billion in 1991 from a peak of $70.9 billion in 1988. This slowdown is also reflected in the drop in employment in bank and nonbank affiliates added each year from a peak of 736,000 in 1988 to 474,000 in 1990 and only 228,000 in 1991. (Separate employment data on nonbank businesses acquired or established in 1991 are not given here in order to avoid disclosure of individual company operations.)

The 1988-91 slowdown in investment outlays for new affiliates was concentrated in outlays to acquire very large companies. The share of the total outlays accounted for by investments of $1 billion or more fell from 40 percent in 1988 and 1990 to only 14 percent in 1991.

Country of Affiliate Ownership

Foreign-owners in the advanced industrial nations (Europe, Canada, and Japan), with their strong technological and marketing capabilities, are the principal foreign direct investors in the United States (Figure 4A-2). Their dominance is reflected in their 89 percent share in 1990 of the total value added by all U.S. nonbank affiliates. European owners alone accounted for 58 percent of the total.

During the 1980s, Japanese firms, focusing mainly on manufacturing, increased their value added more rapidly than other major investors. Japanese-owned affiliates doubled their share of the total value added by affiliates from 7.0 percent in 1980 to 14.6 percent in 1990. The ratio of the U.S. value added by these Japanese-owned affiliates to the total value of their merchandise imports rose from 17.9 percent in 1980 to 40.3 percent in 1990, reflecting the growing relative importance placed by Japanese-owned affiliates on production in the United States, rather than on imports. Nevertheless, despite the rising relative size of their value added, in 1990 the $35.3 billion of value added by U.S. affiliates of Japanese companies remained consid-

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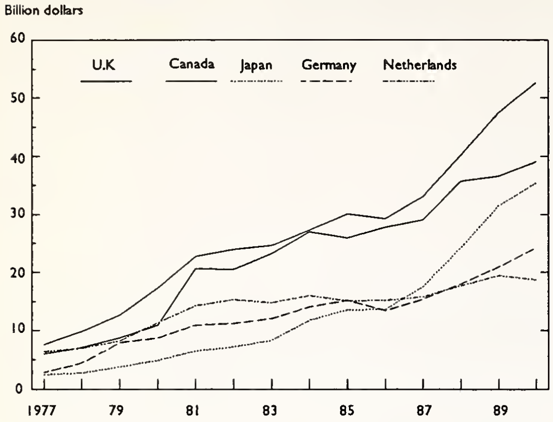
[1] Outlays by foreign investors are generally far smaller that the total value of the assets of the firm acquired or established, since such firms are often only partly owned by foreigners.

Figure 4A-2

Value Added by U.S. Nonbank Affiliates, by Principal Countries of Beneficial Ownership



erably smaller than the $89.7 billion in U.S. merchandise imports from Japan.

Foreign Government Ownership

Public concern is frequently expressed that enterprises owned by government and government-related enterprises may enjoy advantages because of their ties with those foreign governments. U.S. enterprises that are fully or partially owned by foreign governments may have access to capital or foreign market outlets that would not be available to other U.S. firms. Also, foreign governments may be willing to price below cost and therefore accept below-market returns on their investment in U.S. enterprises because of the importance they attach to noncommercial objectives.

U.S. affiliates owned by foreign governments account for only a small share of the total business operations of U.S. affiliates. In 1990, foreign government-owned U.S. businesses employed only 128,900 persons, compared with total nonbank affiliate employment of 4.7 million. Moreover, the data show no clear trend in the government-owned businesses' share of total affiliate economic activity. These businesses' share of total affiliate employment in 1990 was only 2.7 percent, somewhat lower than in the mid 1980s. Their share of total affiliate sales in 1990 was 4.9 percent, somewhat higher than in earlier years.

Affiliates with foreign government or government-related entity ownership (i.e., those in which a foreign government owns at least a 10 percent share of the U.S. business) have not been very profitable on average. They incurred aggregate net after-tax losses in every year from 1980 through 1990, except for 1989 when they still accounted for a smaller share of total affiliate net income (2.8 percent) than of total affiliate sales (4.5 percent).

Compared to U.S. affiliates in general, the foreign government-owned U.S. affiliates have been more concentrated in the petroleum and the transportation equipment manufacturing industries, both of which pay relatively high wages. In 1990, compensation per employee was 37 percent higher in the foreign government owned or affiliated firms than in all other affiliates.

According to data for 1987, the Government of France accounted for by far the largest share (44.9 percent) of the sales by government-owned U.S. affiliates. Next in order of sales were the governments of Kuwait and Italy (which, respectively, accounted for 7.2 percent and 4.4 percent of government-owned affiliate sales).

In most recent years, the Government of France has been the principal foreign government purchaser of U.S. companies. The largest recent purchases by the French Government involved U.S. companies in industrial chemicals, abrasive products, and pharmaceuticals. In 1987 and 1988, the largest individual government takeovers of U.S. firms were by the governments of the United Kingdom and Saudi Arabia (Table 4A-2).

Growing Importance of New U.S. Affiliates

While foreign-owned firms still account for a small share of total U.S. GDP, the value added by their operations rose sharply in the 1980s. By the later half of the decade, rough estimates indicate that most of the growth in the aggregate operations of foreign-owned firms resulted from the acquisition and establishment of new affiliates rather than the expansion of existing affiliates' operations.

A basis for estimating the extent that new affiliates are the source of total affiliate growth each year is provided by the data reported to BEA on the operations of U.S. firms "acquired or established" each year by foreign owners.[2] These data indicate that new affiliates have been a major source of the annual growth in afilliate operations (Table 4A-3).

These findings are supported by more disaggregated estimates of the sources of change in affiliate employment made by BEA for two sample years--1985 and 1989.[3] BEA estimates that employment in new investments in 1985 (239 thousand workers) was nearly twice as large as the net increase in total affiliate employment between 1984 and 1985 (an increase of 148 thousand

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[2] These data are only rough proxies for new foreign-owned firms' operations because, in the case of acquired firms, they cover their operations in the year prior to acquisition rather than operations in the first year of acquisition. (Most new firms become affiliates through acquisition, not establishment.)

[3] BEA separately estimated the change in employment resulting from new investments, expansion of existing operations, sales or liquidations of businesses, cutbacks in existing operations, and combinations of new investments and sales or liquidations of businesses.

Table 4A-3
Assets, Sales, Net Income, and Employment of U.S. Nonbank Affiliates Acquired or Established in the Years 1987-90

	Assets (Billion $)	Sales (Billion $)	Net Income (Billion $)	Employment (Thousands)
1987	118.5	47.4	0.8	389.6
1988	126.8	91.2	2.7	728.4
1989	118.2	78.9*	0.2*	722.0*
1990	99.8	65.3*	0.4	471.4

nm: Not meaningful because there was a net loss, or a decline between years, for all affiliates.

* Data are not separately published for nonbank affiliates acquired or established in each year. Data shown are totals for all affiliates, bank and nonbank.

Note: For acquisitions, the data are for the fiscal year preceding the year of acquisition, and for newly established businesses, the data are for the first full year of operations.

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

workers). Employment in new investments in 1989 (597 thousand workers) nearly equalled the net increase in total affiliate employment between 1988 and 1989 (an increase of 667 thousand workers).

In the manufacturing sector (excluding that in petroleum and coal products enterprises), only 6.8 percent of total outlays by foreign direct investors during the 1987-91 period were for establishing new businesses. Classified by industry of affiliate, the largest outlays were in chemicals manufacturing affiliates (of which only 8.9 percent of the outlays were for establishing new enterprises), printing and publishing affiliates (11.8 percent), and electric and electronic equipment affiliates (4.5 percent).

The largest share of outlays in an industry for establishing new businesses during 1987-91 was in transportation equipment manufacturing (18.2 percent). Outlays to establish new manufacturing facilities in this industry peaked at $353 million in 1988, and then fell to only $27 million in 1990 and $44 million in 1991.

Table 4A-2
Foreign Government Purchases of U.S. Firms (For purchases valued at more than $100 million) (In million dollars or percent)

	1987	1988	1989	1990	1991
Total large purchases of all U.S. firms (million $):	$48,400	$49,100	$65,300	$48,400	$16,350
Government purchases (million$):					
Total	9,679	4,585	3,951	8,161	236
France	1,447	2,206	2,216	5,198	136
U.K.	8,232	0	0	1,895	0
Other	0	2,379	1,735	1,068	100
Government share of total large affiliate purchases (by value)	20%	9%	6%	17%	1%
Largest government purchases:					
Country	U.K.	S.Arabia	France	France	France
Million$	$7,992	$1,292	$1,050	$1,900	$136
Industry	petroleum refining	petroleum refining	industrial refining chemicals	abrasives inorganic	pharmaceuticals

Note: Data are from generally available public sources, transaction participants, and elsewhere. Values refer to the reported cost of the investments, regardless of the sources or timing of the funds.

Source: U.S. Department of Commerce, International Trade Administration, *Foreign Direct Investment in the United States: (various years) Transactions.*

Acquired companies accounted for most of the total employment and sales of new foreign-owned businesses each year--accounting for 93 percent of the employment and 92 percent of the sales by all new foreign-owned U.S. businesses in 1991.

Impact of Foreign-Owned Firms

The growth of U.S. affiliates has had a net positive effect on the U.S. economy, contributing to capital formation, value added, and technological development. They differ from U.S.-owned firms in terms of profits, taxes, and trade patterns. The distribution of foreign ownership across U.S. industries indicates the sectors in which their contribution has been most important (Table 4A-4). For a more in-depth discussion of the results of the BEA-Census data link project results, see Chapter 5 of this report.

The largest increases from 1980 to 1990 in the affiliates' share of individual U.S. industries' employment occurred in the following manufacturing industries: Chemicals; stone, clay and glass; primary metals; and electric and electronic equipment. The smallest increases occurred in construction; lumber, wood, furniture, and fixtures; and finance, except banking (Table 4A-5).[4]

Unlike U.S. affiliates in goods producing industries, the share of employment in service producing industries is in general below the 1990 average for all private industries of 5.0 percent. The affiliates' shares of employment were below average in retail trade (4.3 percent), finance except banking (4.1 percent), real estate (2.5 percent), services (2.2 percent), and communication and public utilities (1.2 percent). Only in transportation (6.2 percent), wholesale trade (5.5 percent), and insurance (5.4 percent), were their shares higher than average.

New Plant and Equipment Expenditures

During the past few years, new plant and equipment expenditures by affiliates of foreign companies have increased much faster than such expenditures by all other U.S. businesses, in large part because of foreign acquisitions of existing U.S. firms. For example, from 1987 to 1990, the P&E expenditures of nonbank, nonagricultural businesses rose 106 percent for U.S. affiliates, compared with only 21 percent for U.S.-owned businesses. As a consequence, the affiliates' share of total P&E expenditures (excluding banks and agriculture) increased from 7.6 percent in 1987 to 12.2 percent in 1990.

In 1990, manufacturing (including petroleum and coal products manufacturing) accounted for 47 percent of the total U.S. affiliate P&E expenditures (excluding those in banking and agriculture). However, the 1987-90 increase in total manufacturing affiliate P&E expenditures (84 percent) was below the average for all other U.S. affiliates (131 percent).

Table 4A-4

U.S. Affiliates' Shares of Total U.S. Employment, Payroll and Sales, in Ten Industries in Which They Had Highest Shares of U.S. Employment in 1987

Industry	Employment	Payroll	Shipments or sales
All Industries	3.7	4.7	n.a.
All Manufacturing	6.9	7.7	9.6
Hydraulic cement	61.2	62.6	66.8
Noncellulosic organic fibers	60.4	63.7	62.4
Electro-metallurgical prod.	57.5	57.4	48.1
Lead and zinc ores	54.7	47.2	55.7
Potash, soda, & borate minerals	49.6	48.7	48.6
Industrial gases	44.5	43.6	35.2
Industrial sand	43.8	46.1	44.8
Distilled & blended liquors	43.0	47.4	45.8
Agricultural chemicals, nec	42.0	49.0	41.2
Household audio & video equip.	39.7	42.8	59.5

n.a.=not applicable or not available.

Source: Table 1.1, U.S. Department of Commerce, Economics and Statistics Administration, *Foreign Direct Investment in the United States, Establishment Data for 1987* (June 1992).

Note: The industries shown here are those with the highest affiliate shares that can be calculated from unsuppressed data.

By industry of affiliate, the largest percentage increases in new P&E expenditures from 1987 to 1990 occurred in transportation (536 percent), motor vehicle equipment wholesale trade (303 percent), insurance (271 percent), and services (185 percent). However, the very large increase for affiliates in the motor vehicle equipment wholesale trade industry probably largely reflects inclusion of the P&E expenditures by manufacturing plants owned by wholesaling enterprises.

Between 1987 and 1990, Japanese-owned affiliates had a far higher rate of increase in new P&E expenditures (up 157 percent) than any other major foreign-ownership group, partly reflecting advantages in capital costs. Their higher rate of P&E expenditures per dollar of gross product also suggests that they had begun to increase the U.S. content of their sales (Figure 4A-3).

Research and Development Expenditures

The substantial growth of research and development expenditures by U.S. affiliates in recent years, especially by Japanese-owned firms, suggests a rising contribution to U.S. technology development. In the case of the U.S. manufacturing sector (excluding petroleum and coal prod-

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[4] These percentages are based on affiliate data on an industry of sales basis, which is reasonably comparable to an establishment basis, and all U.S. business data on an industry of establishment basis.

Table 4A-5

Employment by U.S. Affiliates of Foreign Companies: Totals and Shares of U.S. Business Employment, Individual Industries, 1980, 1987, & 1990

	Affiliate Employment (In thousands)			Share of U.S. Employment in Percent (In percent)		
Industry	1980	1987	1990	1980	1987	1990
All Industries	2,034	3,224	4,705	2.7	3.7	5.0
Manufacturing	1,110	1,472	2,097	5.4	7.7	10.9
Petroleum & coal products	65	71	91	*	*	*
Chemicals	170	269	331	15.2	26.2	30.3
Stone, clay, & glass	37	82	108	5.6	14.5	19.3
Electric & electronic equipment	161	202	274	7.6	12.0	16.2
Primary metals	64	90	112	5.6	12.2	14.8
Rubber & plastics products	38	57	121	5.3	6.6	13.5
Food	103	137	203	6.0	8.4	12.1
Instruments	52	76	109	7.4	7.4	10.9
Motor vehicles & equipment	59	56	87	7.4	6.6	10.6
Nonelectric machinery.	115	122	217	4.6	5.9	10.3
Other manufacturing	41	47	51	5.5	7.9	8.6
Fabricated metals	52	58	103	3.2	4.1	7.2
Paper & allied products	35	46	50	5.1	6.9	7.1
Print & publishing	42	83	109	3.3	5.4	6.8
Textile mill products	21	27	37	2.5	3.7	5.3
Other transport equipment	22	12	42	2.0	1.0	3.5
Apparel & other textile products	11	12	27	0.8	1.1	2.6
Lumber, Wood, Furniture, & fixtures	20	25	27	1.7	1.9	2.1
Mining	61	68	95	5.9	9.4	13.4
Transportation	40	87	223	1.3	2.7	6.2
Wholesale trade	147	282	348	2.7	4.7	5.5
Insurance	61	81	121	3.5	3.9	5.4
Retail trade	372	633	867	2.4	3.3	4.3
Finance, except banking	28	83	64	3.0	5.3	4.1
Real estate	17	31	37	1.5	2.2	2.5
Services **	109	329	645	0.6	1.3	2.2
Business services	25	159	268	0.8	3.0	5.0
Agriculture, forestry, & fishing	14	18	33	0.8	1.0	1.8
Construction	43	57	70	1.0	1.1	1.3
Communication & public utilities	2	14	27	0.1	0.6	1.2
Unspecified	30	70	79			

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* Affiliate and all-U.S. business data are not comparable. The 1990 share, when appropriate adjustments are made, is about 39 percent.

** Excludes private households.

Note: The affiliate data are classified by industry of sales. The all-U.S.-business data used to calculate the ratios are on an industry-of-establishment basis. In this table, petroleum is not shown as a separate major industry. Instead, in order to be consistent with the all-U.S. business data, affiliate employment in the various petroleum categories is distributed among the other major industries. Thus, manufacturing includes petroleum and coal products, wholesale trade includes petroleum wholesale trade, retail trade includes gasoline service stations, and so on.

Because of changes in SIC codes, the industry coverage for 1980 differs somewhat from than for 1987 and 1990. The largest changes in the all-U.S. data involve instruments and electrical equipment.

Based on establishment data for affiliates and all U.S. business for 1987, it appears that the affiliate share of employment may actually be lower than these data indicate for chemicals manufacturing and higher than these data indicate for mining.

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

ucts), the affiliates' share of total U.S. manufacturing R&D expenditures was almost 15 percent in 1990 compared with 5.7 percent in 1980.[5] The manufacturing industry affiliates' R&D expenditures were equal to 8.2 percent of their value added in 1990, compared with 5.2 percent in 1980 (based on data on an industry of affiliate basis).

The affiliates appear to spend about the same amount on R&D per dollar of sales as U.S.-owned firms in manufacturing industries. R&D spending to sales ratios in 1990 were 2.5 percent for affiliates and 2.8 percent for U.S.-owned firms; and their R&D spending to value added ratios in 1989 were 6.7 percent and 6.5 percent, respectively.

Compared to most other affiliate owners, Japanese owners on average have been spending less on research and development, but more on P&E, per dollar of value added. This difference mainly reflects the composition of the industries in which Japanese firms have invested. Specifically, the Japanese affiliates are highly represented in U.S. wholesale trade, which is not R&D intensive.

During the past few years, Japanese-owned affiliates have increased their ratio of R&D expenditures to value added (Figure 4A-4). This increase partly reflects the changing industrial composition of these affiliates. For example, from 1987 to 1990, affiliates in machinery manufacturing, a sector which spends relatively large sums on R&D per dollar of value added, accounted for a rising share of the value added by Japanese-owned affiliates, while the share decreased for affiilates in wholesale trade, a sector which spends very little on R&D per dollar of gross product.

The steep 1980s upturn in the ratio of total affiliate research and development to value added partly reflects a Canadian acquisition of more than 10 percent interest in a major U.S. chemicals firm. According to public information, in the early 1980s, a Canadian company acquired more than 10 percent but less than majority ownership of the duPont company, a highly research-oriented organization. This purchase resulted in a very large rise in the ratio of R&D to value added for the Canadian-owned affiliates. (This development is indicative of the importance in some statistics of individual affiliates that may not be majority U.S.-owned, but are included in the universe of affiliates because they meet the 10-percent ownership rule.)

For a more in-depth discussion of technology issues as they relate to foreign-owned U.S. firms, see Chapter 6 of this report.

Employee Compensation

The affiliates on average pay higher wage rates than U.S.-owned businesses. For example, according to data for the fourth quarter of 1990 from the BEA/BLS link project, workers in foreign-owned U.S. establishments on average earned about $2,500 per month, about 22 percent more than the average for workers in all U.S. private industry establishments.[6]

The BEA-Census Bureau link data also show that payroll per employee of foreign-owned establishments is

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[5] Manufacturing is the sector in which FDI is most concentrated and in which most R&D efforts by U.S. affiliates is expended.

[6] As the term is used here, wages include salaries, bonuses, the cash values of lodging and meals when supplied, tips and other gratuities, and, in some states, employer contributions to 401(k) plans. Average monthly wages are affected by the ratio of full-time to part-time workers as well as by the numbers of individuals in high-paying and low-paying occupations.

Figure 4A-3

Ratio of U.S. Nonbank Affiliates' Plant & Equipment Expenditures to Their Value Added, by Country of Ownership

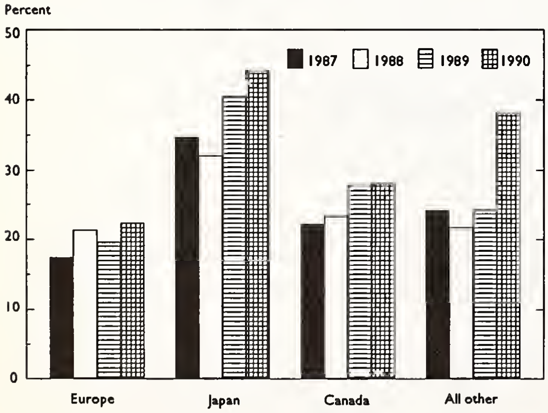
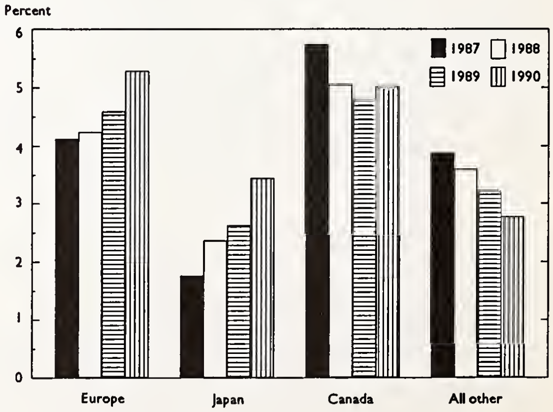


Figure 4A-4

Ratio of U.S. Nonbank Affiliates' R&D Expenditures to Their Value Added, by Country of Ownership



higher on average than that of U.S.-owned establishments. The statistical analysis of these data in Chapter 5 shows that most of the difference in payroll per employee can be attributed to concentration of foreign-owned establishments in high-wage industries; only about one-third of the difference is attributable to higher payroll per employee in foreign-owned establishments than U.S.-owned establishments within the same industry.

Wide differences prevail among U.S. industries in the ratio of affiliate worker wage rates to all other worker wage rates. Among the broad industrial groupings, the wage rates paid to affiliate employees were highest relative to those of all other employees in finance, insurance, and real estate; construction; and agriculture, forestry, and fishing (based on BLS data for the fourth quarter of 1990). On the other hand the wage rates paid to affiliate employees in the services sector were about the same as those paid to all other employees.

Within manufacturing, affiliate payroll cost per employee tended to be highest compared with that in U.S.-owned establishments in relatively low wage rate paying industries (based on unsuppressed data). For example, among the 30 manufacturing industries with the highest ratio of affiliate to domestically-owned establishment payroll cost per employee, 27 had payroll cost per employee below the average for all manufacturing. This finding suggests that in low-wage industries, such as textiles and apparel, affiliates may be specializing in more skilled production operations than are performed in U.S.-owned establishments.

On the other hand, industries in which affiliate payroll per employee was lower than that for domestically-owned establishments include such high-paying industries as motor vehicles and car bodies (SIC 3711) and motor vehicle parts and accessories (SIC 3714). In these two industries, the affiliate payroll cost per employee was 85.1 percent and 79.1 percent, respectively, of that for U.S.-owned establishments.

Employee benefit plans in recent years have accounted for a somewhat larger share of the total compensation of affiliate employees than of all private business employees in general. For example, in 1990, payments for benefits equaled 18.5 percent of the compensation of nonbank affiliate employees compared with 15.4 percent of that of nonbank private employees in general. These payments include the costs of benefits required by statute, such as employers' Social Security taxes, benefits resulting from collective bargaining contracts, and benefits that are voluntary.

Benefits comprise a larger share of affiliates' than U.S.-owned firms' employee compensation, partly because manufacturing accounts for a larger part of affiliate employment than of total U.S. private employment, and benefit packages are larger in the manufacturing sector than in other sectors. In the manufacturing sector, benefits accounted for only a moderately larger share of employee compensation in 1990 for affiliate employees (20.0 percent) than for all U.S. employees in the sector (18.8 percent).[7]

Value-Added Per Employee

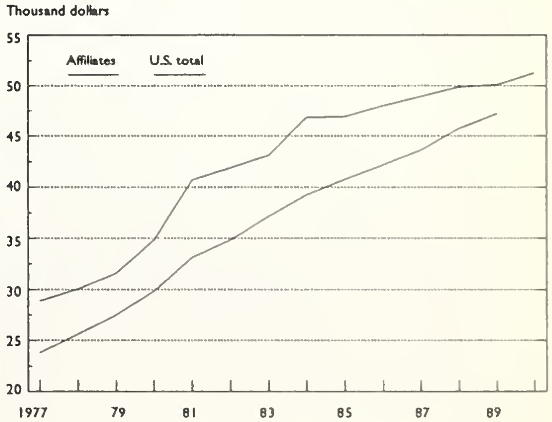
Affiliate productivity on a conventional output per worker-hour basis cannot be estimated because data are not available on affiliates real output and hours worked. Nevertheless, some insights on productivity can be gained from examining value added per employee in nominal dollar terms. This proxy for the productivity of labor has been consistently higher for the affiliates than for U.S. private nonbank business in total, although in recent years this apparent affiliate lead has shrunk (Figure 4A-5). By 1989, the foreign-owned firms' lead in value-added per employee had shrunk to less than one-half that in 1982.

In the manufacturing sector, value-added per employee was substantially higher in 1989 for foreign-owned firms--16 percent higher--than for all U.S.-owned manufacturing firms. However, this differential mainly reflects a much larger share of the affiliates' value added that was accounted for by petroleum and coal manufactured products industry. Excluding this industry, the value added ratio for foreign-owned firms in 1989 was only 6.0 percent higher (Table 4A-6).

This apparent shrinking in the foreign-owned firms' lead in value-added per employee, in nominal dollar terms, can be partly attributed to a number of important factors having little to do with increased productivity, such as shifts in the relative importance of industries.

Figure 4A-5

Average Value Added Per Employee in All Private Nonbank Industries (In current dollars)



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[7] Note that these data are not completely comparable because the affiliate data are on an industry of company or enterprise basis while the data for the industry as a whole are on an industry of establishment basis.

Affiliate Merchandise Trade

U.S. affiliates' merchandise trade differs significantly from that of U.S.-owned firms. A brief overview of their contribution is considered in this section, and a more detailed review of these trade developments is given in Chapter 7 of this report.

Affiliates of foreign companies, many of which are solely trading enterprises, play a proportionately larger role in U.S. international trade than in overall U.S. business activity. In the past few years, merchandise imports by the U.S. affiliates have accounted for about 36 percent of the total value of U.S. merchandise imports, while exports by the affiliates have accounted for about 23 percent of the total value of U.S. merchandise exports. The affiliates' share of imports rose to 36.5 percent in 1990 compared with 30.9 percent in 1980. In contrast, despite the growing importance of affiliates in the U.S. economy as a whole, their share of exports remained about the same in 1990 as in 1980 (Table 4A-1).

The large 1980-87 rise in U.S. affiliates' imports accounted for a very large rise in their share of the U.S. merchandise trade deficit (Figure 4A-6). While the overall U.S. merchandise trade deficit dropped by 33 percent from its 1987 peak to that in 1990, the affiliates' deficit only decreased by 6.2 percent. As a result, the share of the overall U.S. trade deficit accounted for by U.S affiliates rose from 63 percent in 1987 to 88 percent in 1990.

The lack of a significant reduction in the U.S. affiliates' merchandise trade deficit since 1987 is largely attributable to the continued strong growth in their imports and relatively weak growth in their exports. Although their U.S. exports have risen since 1987, the share of those exports in the U.S. affiliates' total sales in the last half of the 1980s remained well below their share in the first half of the decade (Figure 4A-7). The recent low share of U.S. affiliates' total sales accounted for by exports partly reflects the less rapid overall U.S. export growth of basic goods (food, beverages, and tobacco; inedible crude materials; petroleum and products; and coal and coke), which are a much larger share of the affiliates' exports (43 percent in 1987) than exports by all U.S. firms (21

Table 4A-6
Estimated Average Value Added per Employee In all Nonbank U.S. Industries and in Manufacturing
(Values in current thousand dollars)

Industry group	1982	1987	1988	1989	1990
All nonbank private:					
All U.S. firms	34.8	43.6	45.8	47.2	na
Foreign-owned firms	41.9	49.0	49.9	50.1	51.3
Percentage lead	20.0%	12.4%	9.0%	6.1%	na
All manufacturing:					
All U.S. firms	33.5	45.8	48.2	49.4	na
Foreign-owned firms	na	55.9	56.4	57.5	60.2
Percentage lead	na	22.1%	17.0%	16,4%	na
Manufacturing, excluding petroleum & coal products:					
All U.S. firms	32.6	44.6	46.8	48.1	na
Foreign-owned firms	38.0	48.9	49.7	51.0	53.8
Percentage lead	16.6%	9.6%	6.1%	6.0%	na

na = not available.
Source: Based on data collected by the Bureau of Economic Analysis, U.S. Department of Commerce.

Figure 4A-6
Merchandise Trade of U.S. Nonbank Affiliates

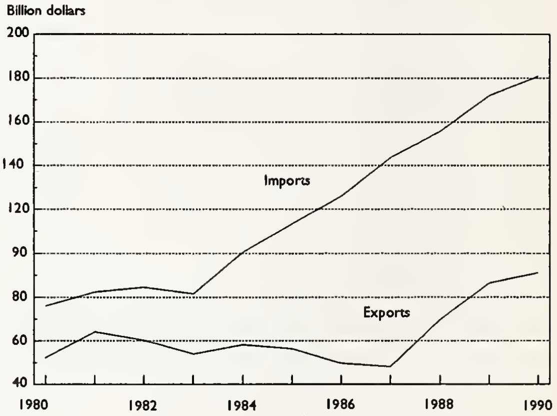
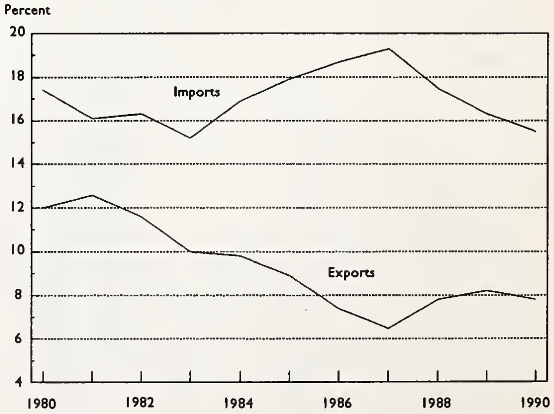


Figure 4A-7
Ratio of Merchandise Imports & Exports to U.S. Nonbank Affiliate Sales



percent). Moreover, the share of U.S. affiliates' merchandise imports supplied by their foreign parent groups rose from 62.0 percent in 1980 to 75.6 percent in 1990. This dependence of affiliates on parent groups for their imports was an even higher 90 percent share for the affiliates whose parent companies were manufacturers. Similarly, the import dependence of Japanese-owned affiliates on parent groups was very high (83 percent in 1990).

Foreign parents of U.S. affiliates are of somewhat less importance as outlets for the merchandise exports of affiliates than as a source of imports, and there was little growth in the 1980s in the share of affiliate exports that consisted of shipments to parents. In 1990, parent groups absorbed 41.5 percent of the exports by affiliates, not much more than the 40.2 percent they absorbed in 1980.

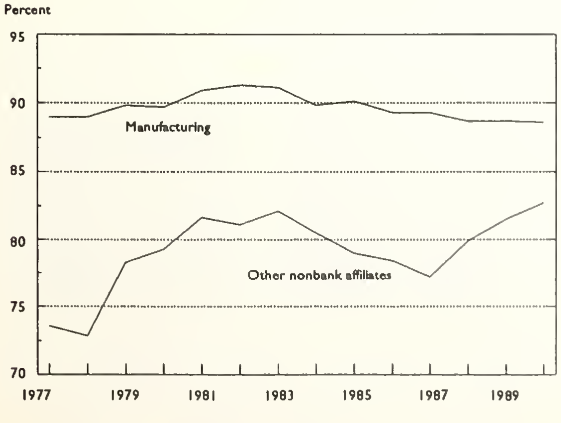
U.S.-Produced Content of Affiliate Sales

The U.S.-content share (the value added in the United States by the affiliates, plus their purchases from other U.S. suppliers, adjusted for inventory change) averaged 85 percent in 1990, with that of manufacturing affiliates at 88 percent and that of other nonbank affiliates at 83 percent (Figure 4A-8). Over the past decade these levels have changed little. The average for manufacturing edged down slightly. The average for other nonbank affiliates dropped to 77 percent in 1987, but rose to its new high in 1990.

Profitability of Operations

U.S. affiliates of foreign firms incurred an aggregate after-tax net operating loss in 1990 of $4.9 billion. This loss was the first reported in the 14-year period for which comparable data are available, and was a sharp fall from their peak aggregate profits of $12.0 billion in 1988. The 1988-90 downturn in profits partly reflects the slowdown in overall U.S. economic growth and the accompanying decline in the affiliates' sales growth, which slowed from 19 percent in 1988 and 1989 to 10.6 percent in 1990.

Figure 4A-8
Ratio of U.S. Content to Sales, Plus Inventory Change, of U.S. Nonbank Affiliates



A special tabulation by BEA of unpublished data on firms that became foreign-owned affiliates for the first time in a given year indicates that in 1990 these firms accounted for a disproportionately large 60 percent share of the aggregate net loss for all U.S. nonbank affiliates. Moreover, this tabulation suggests that the new affiliates in each year also incurred aggregate net losses in 1987 and 1989. Even in 1988, the net income of all new U.S. nonbank affiliates was disproportionately small -- equalling only 2 percent of the total net income for all U.S. affiliates, whereas they accounted for 4.2 percent of all affiliates' sales.

In recent years, the financial performance of all affiliates deteriorated in a wide range of industries. After-tax net losses of over $2 billion occurred in 1990 in each of the following broad categories of affiliates: machinery manufacturing, transportation, real estate, and services. The largest downturns in net profits from 1988 to 1990 occurred in manufacturing affiliates (from $7.5 billion to $.4 billion), transportation affiliates (from -$.02 billion to -$2.93 billion), and wholesale trade affiliates (from $1.5 billion to -$1.2 billion).

By country of ownership, the largest losses in 1990 were incurred by French, Swedish, and Japanese-owned firms. Each of these categories of affiliates had losses of $2.2 billion or more, whereas in 1988 they each had positive net profits.

In the case of Japanese-owned firms, there was a tendency in the 1980s for the return on the investment to fall even though the investment rate grew. From the first half of the 1980s to the second half of that decade, the rate of growth of employment by affiliates with Japanese owners more than doubled (from 11.1 percent from 1980 to 1985 to 23.7 percent from 1985 to 1990). In contrast, the net profits (in current dollars) of these affiliates reached a peak in 1984 and on average were much lower in the second half of the decade than in the first.

The average return that foreigners received on their direct investment position in the United States fell sharply after 1988 and, based on the market value of that position, they had rates of loss equal to 0.3 percent in 1990 and 0.2 percent in 1991. The peak profit rates over the past 10 years were 5.7 percent in 1984 and 3.9 percent in 1988.

From 1983 to 1991, the rate of return on the market value of FDIUS averaged only 2.6 percent compared with 8.4 percent for the S&P 500 companies and 8.7 percent for U.S. direct investment abroad. The reasons for the relatively low returns earned by the U.S. affiliates of foreign companies are not well understood. Among possible reasons for the low rates of return is the large number of new firms acquired or established each year by foreign owners. On average, U.S. companies acquired by foreigners have tended to have relatively low ratios of net earnings to assets in the year prior to their acquisition.[8]

Other reasons for the relatively low returns on foreign direct investment in the United States may include the tax incentive for shifting income from the United States to foreign countries. Also, fears of rising U.S. protectionism may have encouraged foreign firms to undertake somewhat marginal direct investment in this country in an effort to preserve access to their U.S. markets. Low returns on investment in the short term may be part of the cost of the substantial buildup in foreign company participation in U.S. markets in the 1980s.

Income Taxation

Income taxes "provided for" by affiliates (including federal, state, and local taxes) reached a peak in 1988 of $10.6 billion, equalling 46.9 percent of their before-tax income (Figure 4A-9).[9] Their taxes declined slightly in 1989 and 1990, at least partly reflecting the drop in affiliate operating income. In 1990, their total income taxes exceeded pre-tax income in 1990 because their before-tax income covers both companies that had profits and paid taxes and those that had losses and owed no income taxes.

In the case of manufacturing affiliates (excluding petroleum and coal products manufacturing) with positive after-tax income, income taxes in the years 1980-90 averaged 30.6 percent of pre-tax income. For these affiliates, income taxes as a share of pre-tax income ranged from a low of 26.1 percent in 1982 to a high of 35.5 percent in 1980. Over the 11-year period as a whole, there was neither an upward nor a downward trend in income taxes as a share of income. Moreover, it appears that the 1986 federal tax law, which increases the proportion of income subject to Federal taxes, did not result in a rise in average share of affiliate income going to income taxes.

In the 1980s, manufacturing affiliates accounted for rising shares of the total economic activity and income taxes of affiliates. In contrast, with the declining prices and profits of petroleum companies, the petroleum affiliates' income taxes generally fell over the course of the decade. In the case of the wholesale trade affiliates, income taxes peaked in 1985, when the foreign exchange value of the dollar made importing highly profitable, but declined in the next couple of years as the dollar weakened relative to other currencies. The weakening of the dollar also accounts for some of the decline in the profits and taxes of the affiliates with Japanese owners, since these affiliates are major importers.

It should be kept in mind that the U.S. affiliates pay substantially more taxes than just corporate income taxes (Figure 4A-10). For example, in 1990 the taxes other than income and payroll taxes paid by affiliates amounted to $25.3 billion, compared with $10.3 billion in income taxes. These taxes include various sales taxes, import duties, and others.

For a more in-depth discussion of tax issues as they relate to U.S. affiliates, especially the issue of transfer pricing, see Chapter 8 of this report.

Figure 4A-9

U.S. Income Taxes (Federal, State & Local) and Before-Tax Income of U.S. Nonbank Affiliates

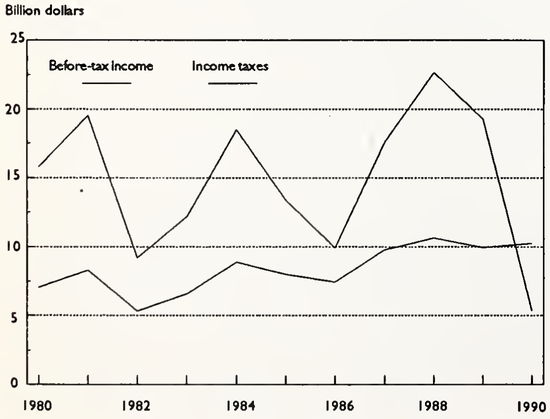
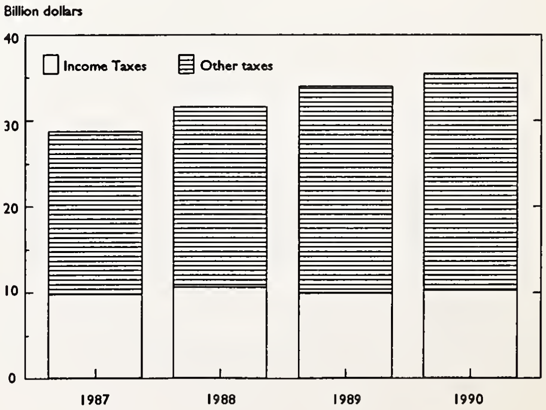


Figure 4A-10

U.S. Income Taxes and Other Taxes, Excluding Payroll Taxes, Paid by U.S. Nonbank Affiliates



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[8] For a discussion of the factors affecting U.S. affiliates rates of return see: J. Steven Landefeld, Lawson, and Weinberg, "Rates of Return on Direct Investment," in U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business,* August 1992, pages 79-86.

[9] Strictly speaking, these tax data are reported to BEA in terms of "taxes provided for" in the income statements of the affiliates, as the amount of taxes eventually paid for a given tax year may not be determined and may be paid considerably later than at the end of that tax year. For simplicity in this chapter, these amounts are referred to here merely as "taxes".

State Locations of U.S. Affiliates

The states with the greatest reliance on affiliates for employment are: Delaware (where 14.0 percent of 1990 nonbank business employment was accounted for by affiliates), Hawaii (11.2 percent), South Carolina (8.0 percent), Alaska (7.7 percent), and New Jersey (7.2 percent). Of these states, only Alaska was not among the top 5 in terms of affiliate share of employment in 1987. The largest increases from 1987 to 1990 in the affiliate share of employment occurred in Hawaii (increase of 3.9 percentage points), Wyoming (3.2 points), Alaska (2.5 points), Minnesota (2.4 points), and Indiana (2.3 points).

At the other extreme, the states with the smallest share of nonbank business employment in 1990 accounted for by affiliates were North Dakota (1.4 percent), South Dakota (1.9 percent), and Montana (2.1 percent). Agriculture, one of the industries with the lowest shares of affiliate participation, is the dominant industry in these states.

In a number of the states' manufacturing sectors, affiliates of foreign companies have become major employers. For example, in 1990, affiliates accounted for 22.7 percent of the manufacturing employment in Alaska and 20.3 percent of it in West Virginia. Other states in which affiliates accounted for more than 15 percent of manufacturing employment in 1990 are South Carolina, Delaware, and New Jersey.

4B

Foreign Banking in the United States

*by David C. Lund**

This chapter focuses on changes in the operations of foreign banks in the United States since the early 1980s, presenting new information that changes our understanding of the estimated size and characteristics of foreign banking in the United States. It also addresses regulatory issues that may affect the competitiveness of U.S. versus foreign banks[1] operating in the United States.

The U.S. data on foreign direct investment produced by the Bureau of Economic Analysis (BEA) treat banking and nonbanking sectors differently. The banking data, unlike those for nonbanks, do not include all transactions with the foreign parent. BEA data include only permanent invested capital; they exclude data, which are reported to the U.S. Department of the Treasury, on transactions between foreign parents and their U.S. bank offices arising from their normal banking business.

This chapter uses a broader definition of foreign involvement in the U.S. banking industry in order to include more of the transactions of U.S. subsidiaries of foreign banks and of other major organizational forms used by foreign bankers operating in the United States. The broader scope is consistent with both banking industry practice and with Section 3(c)(1) of the Foreign Direct Investment and International Financial Data Improvements Act of 1990, which specifies that analyses in this report to Congress "...shall compare business enterprises controlled by foreign persons with other business enterprises in the United States...."[2] While U.S. branches and agencies of foreign banks operate on the basis of their foreign parent bank's capital, as do branches of U.S. banks operating in foreign countries, the transactions of these enterprises operating in the United States are relevant to, and clearly within the analytical scope of, this report.

This chapter presents new estimates of offshore lending by foreign banks to U.S. businesses and other data on recent shifts of assets to U.S. offices of foreign banks that change what is known about U.S. business lending (also called commercial and industrial (C&I) lending) by foreign banks. The primary data used in this chapter on the operations of foreign and U.S. bank offices in the United States are compiled from the Federal Financial Institutions Examination Council (FFIEC) Quarterly Call Reports, and will be referenced as FFIEC data in the text.[3]

In summary, asset growth by foreign banks slowed in 1990-1991 after registering double-digit annual growth rates since the early 1970s. Business lending by both foreign and U.S. banks operating in the United States declined in 1991, reflecting a weak U.S. economy, loan quality problems, and increased capital requirements. Pursuit of business opportunities outside the United States also contributed to slowing down the growth of U.S. business lending by foreign bank offices (including U.S. subsidiaries and U.S. branches and agencies of foreign banks) after years of rapid growth associated partly with large increases in nonbank foreign direct investment outlays in the United States. Although reported FFIEC data show an increase in foreign banks' U.S. business lending in 1991 (followed by a slight rise in 1992), this analysis finds the 1991 increase was apparently due to a shifting of existing business loans from offshore to onshore offices by only a handful of foreign banks. Business loans dominate foreign banks' U.S. loan portfolios (65 percent, compared to 22 percent for U.S. banks). This is due to foreign banks' limited involvement in consumer and other forms of retail banking, and their purchases of business loans originated by U.S. banks.

New information on offshore lending published in an article by staff of the Federal Reserve Bank of New York[4] shows that European banks extensively used offshore banking centers to lend to U.S. firms, and these banks played a more important part in foreign banks' commercial and industrial (C&I) lending in the United States than had been thought previously. The higher level and the somewhat larger European share of foreign banks'

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[1] The terms "U.S. bank" and "foreign bank" are used in this chapter to refer, respectively, to U.S.-owned and foreign-owned banks operating in the United States.

[2] Public Law 101-533, 104 Stat. 2346, Nov. 7, 1990, Sec. 3(c)(1).

[3] Extensive tables on the U.S. and foreign components of the banking industry, many of which include estimated offshore lending, are contained in Statistical Appendix C.

[4] Robert N. McCauley and Rama Seth, "Foreign Bank Credit to U.S. Corporations: The Implications of Offshore Loans," *Quarterly Review*, Federal Reserve Bank of New York, Spring 1992, pp. 52-65.

C&I lending in the United States are more in keeping with the large 1980s European increase in foreign direct investment in nonbank sectors of the U.S. economy. The new information also shows that U.S. offices of Japanese banks did not dominate foreign banks' business lending in the United States.

Recent changes in banking regulations include increased capital requirements for all banks in the United States, as well as increased flexibility to enter new businesses, such as insurance, annuities and limited underwriting of equity securities, for "well capitalized" banks. Increased capital, often in excess of regulatory minimums, improved asset quality, and the recently improved profitability of most banks has also led to much improved equity market valuations of the 50 largest bank holding companies in the United States (see Statistical Appendix C, Table 4B-5).

At the same time, a potential competitive advantage for many U.S. branches and agencies of foreign banks could arise because, in contrast to U.S. commercial banks, they have the option of electing to participate in the retail banking business and, therefore, whether to pay deposit insurance premiums. Also, while the minimum risk-adjusted capital requirements of countries subscribing to the Basle Accord have been found to be generally equivalent to those in the United States,[5] only the United States

The Changing Bank Regulatory Environment

The bank regulatory environment for U.S. and foreign banks operating in the United States continues to evolve, with many changes carried out at both the domestic and international levels reflecting a growing movement toward stricter and more uniform regulation of banks operating internationally. A key element of the domestic and international bank regulatory environments is the use of minimum **risk-based** capital requirements. These requirements, initially specified by the Basle Committee on Banking Supervision in July 1988, became fully effective at the end of banks' 1992 fiscal year (March 31, 1993 for Japanese banks and December 31, 1992 for U.S. and all other banks).

The Basle Accord's minimum international capital requirements require bank capital at least equal to 8 percent of **risk-adjusted assets**. Half of the capital required, or at least 4 percent of risk-adjusted assets, must be "Tier 1" or "core" capital, a capital category that includes common stockholders' equity. The remainder, or "Tier 2" capital, includes hybrid capital and subordinated debt instruments.[1] For the highest-risk lending category, including business and consumer lending, the full $8 of capital is required for each $100 of lending. Other asset types, such as real estate first mortgages, are classified in lower risk categories and require lesser amounts of capital. Assets such as cash and Treasury securities have a zero capital requirement (except in the United States, which applies a "Tier 1" leverage requirement to all bank assets). Risk assignments are also made, and capital requirements specified, for off-balance sheet exposures such as interest rate swaps and standby letters of credit that back or guarantee commercial paper. The requirement for total capital at least equal to 8 percent of risk-adjusted assets, and for a 4 percent "Tier 1" capital share is referred to here as the "8/4 Rule." In Europe, these capital-asset ratios are also often referred to as "Cooke Ratios," after Peter Cooke, the Chair of the Basle Committee on Banking Supervision at the time these rules were developed.

Although the Basle Accord addresses minimum capital requirements for banks operating internationally, national banking authorities can apply more stringent requirements, or apply capital requirements to all domestic banks. The increased stringency of U.S. banking regulations, and the associated extra capital, comes, in part, from the **leverage** requirement, by which "Tier 1" or "core" capital must be large enough to at least equal 4 percent of average **total** assets (minus net worth)[3] as well as the 4 percent "Tier 1" share of risk-adjusted assets required by the Basle Accord. Since risk-adjusted assets are smaller than total assets for most banks, averaging 82.2 percent of total assets for the 50 largest bank holding companies in the U.S. according to the Federal Reserve Board (Statistical Appendix C, Table 4B-5), the 4 percent leverage ratio is equivalent to a 4.9 percent ($4 \div 0.822 = 4.87$) "Tier 1" or "core" capital risk-adjusted ratio, higher than the international requirement for "Tier 1" capital. This tougher requirement is referred to here as the "8/4/4 Rule."

The intent of the leverage requirement is to reduce interest rate risks by limiting the extent to which banks can meet the risk-adjusted capital requirements by shifting portfolios toward lower credit-

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[5] See the "Capital Equivalency Report," mandated by Section 214(b) of the Foreign Bank Supervision Enhancement Act of 1991, and jointly submitted to the Committee on Banking, Housing, and Urban Affairs of the Senate and the Committee on Banking, Finance and Urban Affairs of the House of Representatives by the Board of Governors of the Federal Reserve System and the Secretary of the Department of the Treasury, June 19, 1992.

The Changing Bank Regulatory Environment (continued)

risk assets such as government securities. **Interest rate risk** refers to a decline in an existing fixed-rate asset's value resulting from a rise in interest rates. However, analysis of data on the "top 50" bank holding companies in the United States (Statistical Appendix C, Table 4B-5), suggests that a lower leverage ratio of about 3.3 percent (4 * .822 = 3.28) would limit interest rate risk to the average for the 50 largest banks without raising the minimum 4 percent "Tier 1" capital requirement; thereby avoiding competitiveness problems for some U.S. banks caused by the leverage requirement.[3] When compared with the capital required to support some foreign parent banks' operations in the United States, this difference means nearly $9,000 more "Tier 1" capital ($49,000 versus $40,000) required of average U.S.-insured banks for each $1 million business loan.[4]

The Federal Deposit Insurance Corporation Improvements Act of 1991 (FDICIA) contains several changes that affect all U.S. and some foreign banks operating in the United States. These include specification of minimum capital standards for U.S.-insured banks, a risk-based deposit insurance system (lower rates for lower risk banks), and allowance of "well capitalized" U.S. and foreign banks operating in the United States to enter new lines of business, such as insurance, annuities and limited underwriting of equity securities, in exchange for maintaining higher capital levels and an "A" supervisory rating (Statistical Appendix C, Tables 4B-7C and 4B-7D).

As of June 30, 1992, 9,115 of the 12,040 U.S.-insured commercial and savings banks (including 53 U.S. subsidiaries of foreign banks), representing nearly half of the assets of all insured banks in the United States, qualified for the top capital category (Statistical Appendix C, Table 4B-7B). Also, 23 of the 52 insured branches of foreign banks qualified for lower deposit insurance rates (Statistical Appendix C, Table 4B-7D).[5]

The necessary capital requirements under FDICIA for the top risk classification are 10 percent total and 6 percent "Tier 1" risk-adjusted ratios, and a 5 percent "Tier 1" leverage ratio. For large banks in the U.S., the 5 percent leverage requirement is equivalent, on average, with a 6 percent "Tier 1" risk-adjusted requirement.[6] The higher capital requirements for "well capitalized" U.S. and some foreign banks operating in the United States suggest that these banks may be at some competitive disadvantage compared to many U.S. branches and agencies of foreign banks due to lower capital requirements of their foreign parent banks.

Increased supervision and regulation of foreign banks operating in the United States have been carried out under other legislative and regulatory provisions, following cases of fraud and criminal activity by a few banks in the 1980s. For example, the Foreign Bank Supervision Enhancement Act of 1991 (FBSEA) established uniform federal standards for entry and expansion of foreign banks, required registration of foreign bank representative offices, and increased the role of the Federal Reserve System in the supervision and regulation of the U.S. activities of foreign banks.[7]

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[1] See "Capital Equivalency Report," op. cit., pp.4-6, for a discussion of the country-to-country differences in the existence and utilization of various eligible components of "Tier 2" or supplementary capital. The report concludes that "taking these differences into account, there is broad equivalence among countries in the quality of Tier 2 capital...."

[2] "Institutions not experiencing or anticipating significant growth are permitted to have a leverage capital ratio as low as 3.0 percent and, potentially, still qualify as 'adequately capitalized' (emphasis added)," *Federal Register*, Vol. 57, No. 191, October 1, 1992, p. 45279, n. 18.

[3] The reasoning is that if the ratio of risk-adjusted to total assets for the largest banks is representative of what might be desired in order to limit interest rate risk, then that amount, .822 in the case of the top 50 bank holding companies, times the 4 percent minimum "Tier 1" requirement gives an average leverage ratio of 3.3 percent which is consistent with the risk-adjusted "Tier 1" requirement. It should be noted that the 5 percent leverage requirement necessary for "well-capitalized" banks is much more consistent with the 6 percent "Tier 1" risk-adjusted capital requirement for banks with average risk-adjusted to total asset shares than is the case with the "8/4/4 Rule."

[4] It should be noted that U.S. federal bank regulators are considering whether to set a standard for interest rate risk and, thereby, replacing the leverage requirement so this potential competitiveness problems may not be realized.

[5] These branches qualify by maintaining "eligible assets prescribed under 12 *CFR* 346.20 at 108 percent or more of the preceding quarter's average book value of the insured branch's third-party liabilities." See *Federal Register*, Vol. 57, No. 191, Thursday, October 1, 1992, p. 45285.

[6] The 5 percent leverage ratio divided by the 0.822 ratio of risk-adjusted to total assets for the 50 largest banks equals a "Tier 1" risk-adjusted ratio of 6.08.

[7] For a comprehensive review of provisions affecting foreign bank offices in the United States see Ann E. Misback, "The Foreign Bank Supervision Enhancement Act of 1991, *Federal Reserve Bulletin*, Board of Governors of the Federal Reserve System, Washington, D.C., Vol. 79, No. 1, January 1993, pp. 1-10.

has departed from risk-based capital standards by retaining a leverage requirement as a measure to control interest-rate risk (see box). Some of the foreign parent banks with U.S. branches and agencies have capital well in excess of these minimums (reflecting market pressures for increased capital for those banks engaged in interbank and wholesale markets), but their capital requirement is still lower than the higher amounts of capital required of "well capitalized" (as distinct from "adequately capitalized") U.S. banks (see box). The more stringent capital requirements for the "well capitalized" banks in the United States could slow lending growth by these banks relative to many foreign bank branches and agencies already operating in the United States, unless the increased capital and reduced risk by these banks provide sufficient offsets in the form of reduced funding costs. The accumulation of the capital required of these banks has, in addition, already dampened lending by many of these banks, although problems with asset quality and a slow economy have also played a key role in the lending slowdown.

Foreign Expansion in U.S. Banking Slows

The Federal Financial Institutions Examination Council (FFIEC) data show that assets (loans, securities, etc.) of U.S. offices of foreign banks grew rapidly for nearly two decades, averaging a 28 percent annual rate of increase from $32 billion in December 1973 to $300 billion in December 1982. Since then, foreign bank assets grew at a slower, but still rapid, 13.4 percent pace over the 1983-1990 period. In 1991, foreign involvement in the U.S. banking industry continued to expand, but at a slower 9 percent rate, and assets reached a reported level of $860.6 billion (or over one trillion dollars if offshore lending is added). By comparison, since 1983, assets of U.S. commercial banks increased at a slower 6.1 percent pace, from $1.9 trillion in December 1983 to $2.9 trillion in December 1990, and rose a slight 1.5 percent in 1991. In 1992, foreign bank assets were virtually unchanged, while U.S. bank assets increased 3.2 percent, reflecting increased securities purchases.

As of June 1992, there were a total of 730 foreign banking offices in the United States, 383 branches (52 of which are U.S.-insured) and 230 agencies of foreign banks, 32 other bank offices, and 85 U.S.-insured subsidiaries of foreign banks. The activities of U.S. branches and agencies are supported by the capital of their foreign parent banks. U.S. banking authorities, including the Federal Reserve System, the Office of the Comptroller of the Currency (OCC), the Federal Deposit Insurance Corporation (FDIC), and state banking authorities, provide oversight of the foreign bank offices. These U.S. offices of foreign banks are also, for the most part, under the consolidated supervision of the parent banks' home country banking authorities. U.S. subsidiaries of foreign banks, by contrast, are supervised by U.S. banking authorities in much the same way as other U.S. commercial banks and they too operate as separately capitalized entities.[6]

The sharply increased foreign presence in U.S. banking in the 1980s was due partly to the rapid expansion of foreign direct investment in the United States (FDIUS) in nonbank sectors. Over the 1983-1991 period, total loans by foreign banks to U.S. firms[7] jumped by over $350 billion, or 166 percent, to $564 billion, including adjustments for estimated offshore lending, while FDIUS increased $271 billion, or nearly 200 percent, to $408 billion.

Onshore and Offshore Lending

Foreign banks extend credit to U.S. companies, including U.S. subsidiaries of foreign companies, from their offices in the United States (onshore lending) and from their offices outside the United States (offshore lending). Onshore loans by all banks, as well as offshore loans to U.S. borrowers by foreign branches of U.S. banks, are included in U.S. banking statistics. Data on offshore lending by branches and agencies of foreign banks to U.S. companies, however, are incomplete, infrequently collected, and of uncertain quality.

Since the mid-1980s, a substantial portion of lending by foreign banks to U.S. nonbank businesses has originated or been booked from offices in offshore banking centers, such as the Cayman Islands and the Bahamas, and data on offshore lending by these foreign banks to U.S. companies are not included in U.S. banking statistics. The most comprehensive current source on offshore lending by non-U.S. banks is data collected by the Cayman Islands' Banking Department on a once-a-year basis. These data are the basis of a recent article by staff of the Federal Reserve Bank of New York, which estimated that unreported offshore business lending to U.S. companies was greater than $150 billion in 1991, up from an estimated $20 billion in 1983.[8]

In order to improve the detail and timing of information on offshore activities of U.S. offices of foreign banks, from shell offices in the Cayman Islands, the Bahamas, and elsewhere, the Federal Financial Institutions Examination Council (FFIEC) Quarterly Call Report will initiate regular quarterly reporting beginning in March 1993 for offshore branches of foreign banks that are managed and controlled by offices of foreign banks in the United States. Results of this new quarterly reporting will be available later in 1993. The preliminary results from the estimates presented here indicate only the magnitude of this offshore activity, but are the best available information on offshore lending at this time. The estimates do not cover lending to U.S. companies by banks operating in offshore banking areas other than in the Cayman Islands, so they may understate total offshore business lending to the United States.

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[6] U.S.-owned banks operating in the United States are far larger in number than the foreign-owned bank offices in the United States, although the number of U.S.-owned banks is declining, reflecting consolidation through mergers, acquisitions, and closures. The number of commercial banks (including 85 U.S. subsidiaries of foreign banks) in June 1992 was 11,685, 17.7 percent fewer than the 14,200 banks operating in December 1986. Over the same period, employment declined a relatively smaller 5.3 percent, from a peak of 1,563,145 full-time equivalent employees in 1986 to 1,479,522 in June 1992.

[7] In this report, loans to U.S. firms refer to loans to firms with U.S. addresses.

[8] *Op. cit.*, p. 54.

Estimates of offshore lending, when combined with the regular FFIEC call report data, change previous perceptions of the nature, composition, and size of foreign banks' presence in U.S. credit markets. The level of foreign banks' business lending in the U.S. was nearly three-quarters higher than previously estimated, the Japanese banks' role in lending to U.S. businesses was relatively overstated, and, specifically, Japanese banks **do not**, as indicated by onshore FFIEC loan data, dominate foreign banks' business lending in the United States. Furthermore, business loans to firms with U.S. addresses were found to be even more dominant in foreign banks' portfolios of loans managed or controlled by their U.S. offices than the 50 percent share already evident from the FFIEC data on U.S. offices of foreign banks.

Incorporating offshore lending from Cayman Islands' bank offices increases the estimates of foreign bank business lending, and, to a lesser extent, the overall rate of growth of foreign bank assets (loans, securities, etc.) in the United States. The assets of foreign bank offices, including estimated offshore lending, grew at a 15.2 percent average annual pace from 1983 to 1990 (compared to a 13.4 percent FFIEC-reported pace for U.S. offices of foreign banks) and at a 7.8 percent rate in 1991 (compared to a FFIEC-reported 8.8 percent rise), with the smaller 1991 rise reflecting a sharp slowdown in offshore lending to the United States. By comparison, the assets of U.S. banks increased at a slower 6.1 percent annual pace during 1983-1990, by a slight 1.5 percent in 1991, and rose by 3.2 percent in 1992.

The new data also change some of the conclusions related to the U.S. operations of foreign banks, based on FFIEC data, that were presented in the banking chapter of the 1991 FDI report.[9] Although that report noted the potential problem of an undercount of banking activity in the Cayman Islands, the importance of that undercount was not anticipated. The report concluded that from "December 1985 to December 1990, nearly all of the increase in foreign bank business lending in the United States ... has been by the offices of Japanese banks." It is clear now that the earlier FDI report was incorrect in this regard. Although growth in business lending by Japanese banks shown in the official FFIEC data was rapid, offshore lending by largely non-Japanese banks to U.S. firms also grew rapidly over the 1985-1990 period, thereby reducing the Japanese share of the 1985-1990 increase in business lending by foreign banks from over 90 percent of a reported $84 billion increase, excluding offshore lending, to under 40 percent of an estimated increase of $188 billion if estimated offshore lending is included.

The $9 billion reported rise in business lending to U.S. firms in 1990 was **not** more than accounted for by Japanese banks, as the 1991 FDI report indicated, but was accompanied by an estimated $32 billion rise in offshore loans[10] from largely non-Japanese banks. Japanese banks' share of foreign business lending in the United States was reported as 62 percent in 1990, but after including estimated offshore lending it drops to less than 38 percent.

Rapid Lending Growth Shown by Foreign Banks

Legislators and others have expressed concern that foreign banks, as a whole, do not lend relatively as much in the United States as their U.S. counterparts and, therefore, did not contribute to easing the tight credit conditions facing some U.S. businesses during the last several years.[11] This concern appears to be based on comparison of foreign and domestic banks' ratios of total loans to assets. This measure of willingness to lend can be misleading for foreign bank offices because this ratio will depend on where their parent banks choose to book and fund these assets. In the United States, for example, the top 25 foreign bank offices only represent from 4 to 25 percent of their parent bank's assets (see Statistical Appendix C, Table 4B-6). Still, examining these ratios suggests that foreign banks had loan ratios (adjusted for estimated offshore loans) that were nearly as high on average as those for U.S. banks. FFIEC data show that foreign banks in the United States have lower loan-to-asset ratios than do U.S. banks, 48 percent compared to nearly 60 percent, respectively. Adjusted for an estimated $152 billion in offshore business lending by foreign banks to U.S. firms, however, the average loan-to-asset ratio for all foreign banking offices in 1991 (including U.S. subsidiaries, branches, and agencies of foreign banks) was nearly 56 percent, considerably closer to the figure posted by U.S. banks.

Loan-to-asset ratios of foreign banks in the United States have declined since a peak in 1981, but the decline was exaggerated by the 1980s shift from onshore to offshore lending to U.S. businesses by foreign banks

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[9] U.S. Department of Commerce, *Foreign Direct Investment in the United States*, August 1991, Chapter 10, p.76.

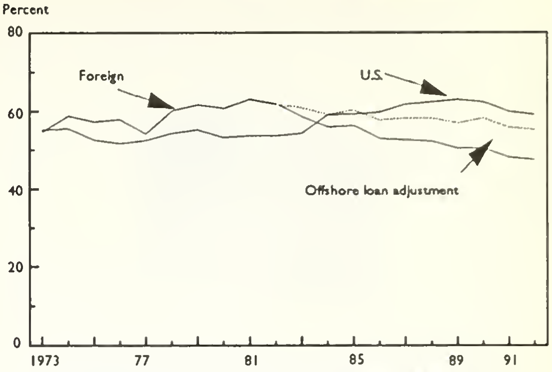
[10] Robert N. McCauley and Rama Seth, "Foreign Bank Credit to U.S. Corporations: The Implications of Offshore Loans," *Quarterly Review*, Federal Reserve Bank of New York, Spring 1992, pages 52-65. The estimated undercounts in business lending to U.S. companies, in billions of dollars, are: $20 (1983), $31 (1984), $45 (1985), $60 (1986), $79 (1987), $95 (1988), $116 (1989), $148 (1990), and $152 (1991). Table 1, p. 54.

[11] See, for example, Gordon Platt, "Foreign Bank Lending Stirs Debate in U.S.," *Journal of Commerce*, June 26, 1992, p. 1A.

(Figure 4B-1). There are a number of reasons for the offshore lending shift by these banks in the 1980s, including tax considerations, but the most significant one was regulatory arbitrage in the form of avoidance of the three percent Federal Reserve Board Eurocurrency reserve requirement. Following the reduction of this reserve requirement to zero on December 31, 1990, business loans reported weekly by large U.S. branches and agencies of non-Japanese banks increased, reflecting loan shifting to the United States from offshore centers. This change provided a substantial regulatory incentive for rebooking of some of these loans to onshore offices by foreign banks, and provided an example of the sensitivity of the funding decisions of banks with wholesale operations -- including U.S. branches of foreign banks -- to small changes in relative costs of funding.[12] Total deposits, largely reflecting large time deposits at these U.S. branches and agencies, rose over $60 billion from December 1990 to December 1991 (Statistical Appendix C, Table 4B-2). Estimates of offshore lending show that Japanese bank offices in the United States did not make extensive use of shell offices in offshore facilities such as the Cayman Islands to place loans to U.S. businesses, possibly because of cost of capital advantages in the 1980s.[13, 14]

Comparative lending growth rates of foreign versus U.S. banks operating in the United States provide a better measure of willingness to lend, and here it is clear that foreign banks do lend, with double digit rates of growth in total lending over nearly two decades from 1973 to 1990. Total lending by U.S. offices of foreign banks (adjusted for estimated offshore loans) over the 1983-1990 period grew at an average 14.4 percent pace, compared to an 8.2 percent annual rate of lending growth by their domestic counterparts.

Figure 4B-1
Loan to Asset Ratios of U.S.- and Foreign-Owned Banks



Sources: Appendix C, Tables 4B-1 and -4, and FRBNY *Quarterly Review*, Spring 1992.

Business Lending Dominates Foreign Banks' Loan Portfolios

The nature and composition of foreign banks' presence in the United States differ significantly from that of their U.S. banking counterparts. The difference between foreign and U.S. banks is most evident in the composition of their loan portfolios. Based on FFIEC data, business (C&I) lending by U.S. branches and agencies of foreign banks accounted for 50 percent of their U.S. loan portfolios in 1991 (Figure 4B-2A). Inclusion of estimated offshore lending raised the business loan share of foreign banks' loan portfolio in the United States to 64 percent that year (Figure 4B-2B). By contrast, business lending represented only 22 percent of U.S. banks' loan portfolio in 1991.

Business loans booked or controlled by U.S. offices of foreign banks increased far more rapidly throughout the 1973-1991 period than did loans by U.S. banks. Business loans by these foreign bank offices increased at a 23 percent annual rate over the 1973-1982 period, at a 12.5 percent annual pace from 1983 to 1990 (or at a more rapid 18.4 percent pace including offshore loans), and rose 6.8 percent between 1990 and 1991. By December 1991, U.S. business loans by foreign banks reached a reported $207 billion ($359 billion including offshore loans). In contrast, business loans by U.S. banks rose at a 9.6 percent annual rate from 1973 to 1982, slowed to a 2.1 percent annual pace from 1983 to 1990, and declined a sharp 9.7 percent to $393 billion in 1991. U.S. banks' business loans continued to decline from December 1991 to December 1992, while reported U.S. business loans by foreign bank offices increased slightly over the same period.

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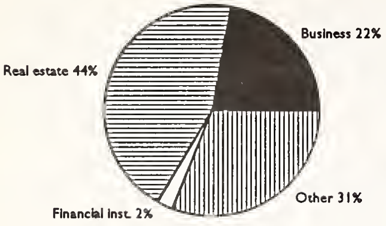
[12] See a joint study by the Department of the Treasury and the Board of Governors of the Federal Reserve System, in consultation with other bank regulatory agencies, pursuant to Section 215 of the Foreign Bank Supervision Enhancement Act (FBSEA), "Subsidiary Requirement Study," December 18, 1992, Appendix C, Implications for the Deposit Insurance System, p.7.

[13] "Competitive loan pricing" was the dominant reason given for using Japanese banks according to a survey of U.S. corporations' motives for using foreign banks. In the same survey, Japanese banks ranked behind domestic banks for all of the reasons studied, and trailed German and U.K. banks in areas such as "international service capabilities" and "ability to propose innovative international banking alternatives." Greenwich Associates, *The Coming Shift in Bank Relationships* (Greenwich, Connecticut, 1988), pp. 18-29.

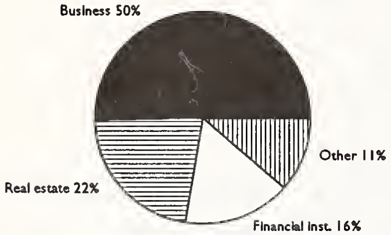
[14] A recent study by Steven A. Zimmer and Robert N. McCauley, "Bank Cost of Capital and International Competition," Federal Reserve Bank of New York *Quarterly Review*, vol. 15, Winter 1991, p. 49, Table 3, finds that Continental and Japanese banks enjoyed substantially lower costs of equity than did U.S. banks in the 1984-1990 period. As a result of the then higher price on their bank stocks, these banks could target a smaller spread between the cost of funds and the commercial lending rate than U.S. banks could accept. The spread was estimated to be 50 basis points (0.5 percentage point) lower for Japanese banks and 30 basis points lower for German and Swiss banks operating in the United States compared to their domestic counterparts.

Figure 4B-2A
U.S. Onshore Bank Loan Portfolios
(December 1991

U.S.-Owned Commercial Banks



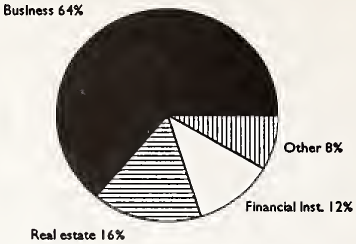
U.S. Offices of Foreign-Owned Banks



Source: Statistical Appendix C, Table 4B-8.

Figure 4B-2B
Onshore & Offshore Bank Loan Portfolios
(December 1991)

U.S. Offices of Foreign-Owned Banks



Source: Statisdstical Appendix C, Table 4B-8.

Table 4B-1
Shares of U.S. Business Lending
(Percent)

	Onshore*				
Year End	Shares of Foreign Banks		Shares of Total		
Dec. 31	Japan	Other	Foreign	Domestic	U.S.
1990	62.2	37.8	30.8	69.2	100.0
1991	54.4	45.6	34.5	65.5	100.0
	Total Onshore and Estimated Offshore**				
1990	37.8	62.2	44.0	56.0	100.0
1991	33.5	66.5	47.7	52.3	100.0

* FFIEC Quarterly Call Reports and Statistical Appendix C, Tables 4B-1 and 4B-4.

** Adjustments for offshore foreign lending to U.S. businesses from Federal Reserve Bank of New York, *Quarterly Review*, Spring 1992, p. 55.

If estimated offshore loans are included, the Japanese share of foreign bank business lending in the United States was far lower than reported by the FFIEC. FFIEC data show that the Japanese share of foreign banks' U.S. business lending was a reported 62.2 percent in 1990 and declined to 54.4 percent in 1991. As offshore lending is dominated by European banks, inclusion of estimated offshore business lending dropped the Japanese banks' share to 37.8 percent in 1990 and to 33.5 percent in 1991 (Table 4B-1). The revised estimates of foreign banks' business loans to U.S. firms reveal a more prominent lending role by European banks (Figures 4B-3A and 4B-3B).

A far higher share of foreign banks' U.S. business lending appears to be to large companies than is the lending by U.S. banks. Stated differently, these U.S. offices of foreign banks do not tend to lend to small- and medium-sized companies. In addition, foreign bank assets in the United States and the office locations of these banks are far more geographically concentrated than are those of U.S. banks. Including estimated offshore lending, nearly three-quarters of both total assets and of business loans by foreign banks are held or managed by offices located in New York, California, and Illinois (Table 4B-2).[15]

The higher U.S. business loan share of foreign versus U.S. banks' loan portfolios is not so unusual, given the types of loan markets primarily targeted by most foreign banks operating in the United States, and the focus on wholesale banking activities, including trade finance, commercial loan syndications, swaps, and foreign exchange activities, by many of the U.S. branches and agencies of foreign banks. Loans by these bank offices are primarily to large companies, where cost of capital advan-

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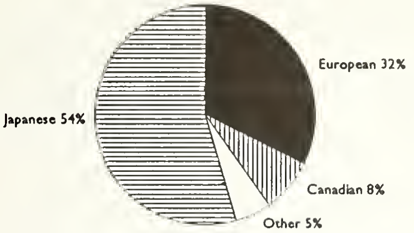
[15] For a tabulation of state shares of offices and assets of foreign banks excluding offshore lending, see U.S. Department of Commerce, *Foreign Direct Investment in the United States*, August 1991, Chapter 10, Table 10-1, p. 78. Although the U.S. assets and business lending of foreign banks are concentrated in these states, foreign banks can lend to companies in other U.S. locations, so long as the papers are signed and the loan is booked at a registered subsidiary, branch or agency.

Figure 4B-3A
U.S. Onshore Business Loans by Foreign Banks (By nationality of bank, December 1991)

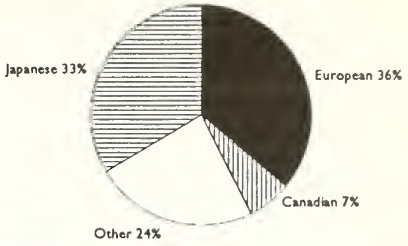
Total : $207 billion



Sources: FFIEC *Call Reports* for onshore C&I loans by offices of foreign banks in the U.S.

Figure 4B-3B
U.S. Onshore & Offshore Business Loans by Foreign Banks (By nationality of bank, December 1991)

Total $359 billion



Sources: FFIEC data for onshore C&I loans by offices of foreign banks in the U.S.; FRBNY, *Quarterly Review*, Spring 1992 for onshore loans

tages would be particularly effective[16] and where risks might be lower or easier to assess. Foreign banks also can be expected to service companies that were known previously to their parent banks, especially those that were acquired or established by foreign companies during the surge in foreign direct investment in the United States in the 1980s. In both cases, problems due to lack of geographical proximity and the associated costs related to the relatively labor intensive process of making and monitoring business loans are minimized.

The foreign banks' share of U.S. business lending also has been increased **indirectly** through the purchase of loans in the U.S. secondary market for business (C&I) loans. This market tends to deal with loans booked to large or publicly traded companies, largely because information

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[16] In the Greenwich Associates' survey cited previously, competitive loan pricing was the dominant reason given by U.S. corporations for using Japanese banks. Also, offshore European and Canadian banks are not likely to be normal sources of funds for small- and medium-sized businesses.

Table 4B-2
Assets, Business Lending and Number of U.S. Offices of Foreign Banks by State Location, Including Estimated Offshore Lending to U.S. Businesses (In billions dollars, December 1991)

	No. of	Assets (in percent)			Business Loans (in percent)		
	Offices	Value	Share	Cumm.	Value	Share	Cumm.
U.S. Total	743	$1,012.7	--	100.0	$358.4	--	100.0
Top Ten States	711	1,009.5	--	99.7	356.9	--	99.6
New York	352	748.5	73.9	73.9	267.1	74.5	74.5
California	162	135.7	13.4	87.3	42.7	11.9	86.4
Illinois	75	75.7	7.5	94.8	28.3	7.9	94.3
Florida	59	12.8	1.3	96.0	1.5	0.4	94.7
Georgia	24	9.4	0.9	97.0	6.6	1.8	96.6
Texas	25	6.7	0.7	97.6	5.9	1.6	98.2
Maryland	1	6.5	0.6	98.3	1.1	0.3	98.6
New Jersey	1	6.1	0.6	98.9	1.5	0.4	99.0
Oregon	4	5.3	0.5	99.4	0.6	0.2	99.2
Washington	8	2.7	0.3	99.7	1.5	0.4	99.6

Source: FFIEC Call Reports.
Note: U.S. offices of foreign banks were located in 21 states and the District of Columbia. Cayman Islands loans were assumed to be rebooked to New York offices. Offices include U.S. subsidiaries, branches, and agencies of foreign banks, as well as foreign-owned Edge Act or Agreement Corporations and New York State Investment companies.

necessary to determine risk, which is necessary to price the loans, is generally available for these companies. Foreign banks have been very active in purchasing business loans originated by banks, according to an analysis by Finance Professors Gorton and Pennacchi referenced in an article in *The Economist*.[17]

According to the analysis by Gorton and Pennacchi, 40 to 44 percent by value of the outstanding C&I loans sold by banks in the United States since the mid-1980s was purchased by foreign banks.[18] When these loan sales peaked in 1989, an estimated $120 billion in business loans originated by U.S. banks was purchased by foreign banks. In 1990, loan sales and purchases declined, and an estimated $80 billion in C&I loans was purchased by foreign banks. These loan purchases increased the measured share of business loans held by foreign banks, raising the business loan share of foreign banks' U.S. loan portfolios from 50 to 62 percent in 1989 and from 56 percent to 62.5 percent in 1990.

Loan purchasers attempt to ensure that the quality of these loans does not deteriorate by having the originating bank continue to hold a part of the loan and to service the loans, for a fee, even though the purchasers fund the remainder of the loan and assume most of the capital risk. The originating banks, largely U.S., that continue to service these loans are in a better position to increase direct business lending and other bank services to these borrowers because they are already servicing these loans and because they have freed up capital by selling these loans into the secondary market.

Capital Accumulation, Asset Quality Problems Affect Lending

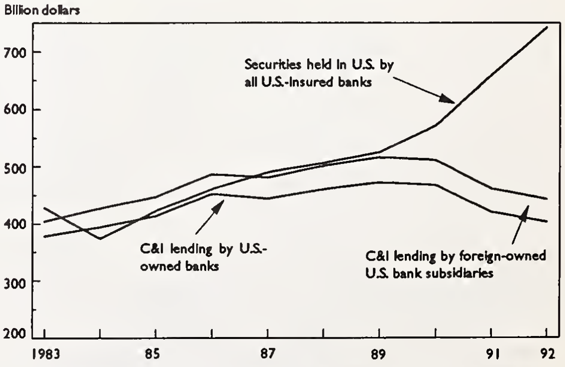
Business lending by U.S. commercial banks declined through the third quarter of 1992. The continuation of a lending decline, which began in late 1989, nearly six quarters after the trough of the recent recession (Figure 4B-4), suggests that more than a recession-induced reduction in loan demand was affecting bank lending. Other factors contributed to the slowdown in business lending. Specifically, the accumulation of capital to satisfy new minimum capital requirements for banks seeking to enter new lines of business (see box) appears also to have influenced lending, as has the deterioration of asset quality. There were also increased market pressures on large internationally-active banks engaged in interbank and wholesale banking markets to accumulate more capital. Virtually all of these banks have offices in the United States, but the number engaged in these international markets has become fewer according to a recent report by the Bank for International Settlements.[19] The interbank and wholesale markets have shown clear signs of concentration among the financial firms with top credit status, according to the report, and these banks have had to enhance their own capital positions to make themselves more attractive as counterparties in the wholesale and interbank markets.[20]

The regulatory environment applicable to foreign and U.S. banks operating in the United States has been tightened in the last few years, as has that applied to banks operating in other developed countries. The sources of this tighter regulatory environment include more active oversight by banking authorities, U.S. legislation and implementing regulations, and standards adopted by the Basle Committee on Banking Supervision. The Basle changes include minimum capital requirements and minimum standards for comprehensive consolidated supervision of internationally operating banking organizations.

The minimum "Tier 1" and "Tier 2" risk-adjusted capital requirements adopted by the United States for all

Figure 4B-4

U.S.-Insured Banks Shift Assets from C&I Lending Toward Securities



Source: FDIC, C&I bank loans by domestic offices, including loans by U.S. subsidiaries of foreign banks, excluding U.S. banks' foreign office loans.

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[17] An extensive survey article of the world banking industry (*The Economist*, May 2, 1992) noted that "In America, a robust market is developing in the sale of C&I loans. Once assumed to be illiquid, C&I loan sales have jumped from $26.7 billion in 2Q 1983 to $290.9 billion in 3Q 1989." (p. 11)

[18] Gary Gorton and George Pennacchi, "Banking and Loan Sales: Marketing Non-Marketable Assets," Working Paper 3551, National Bureau of Economic Research, December 1990. Their analysis is based in part on FFIEC call report data on gross loan sales, and part on the Federal Reserve Board's Senior Loan Officer Survey on Bank Lending Practices. In response to a telephone conversation discussing their earlier paper, Professor Pennacchi provided more recent data on loan sales on February 5, 1993.

[19] Bank for International Settlements, "Recent Developments in International Interbank Relations," a report prepared by a Working Group established by the Central Banks of the Group of Ten countries, Basle, Switzerland, October 1992, p. 29.

[20] *Ibid.*, p. 36.

commercial banks are qualitatively equivalent to those adopted by most foreign countries, but the retention of a "Tier 1" leverage requirement (see box), which applies to total rather than risk-adjusted assets, has the effect of making the U.S. standards somewhat more stringent than the "Tier 1" minimums established by the Basle Accord for internationally-active banks. As a result, although many foreign parent banks with offices in the United States maintain capital substantially in excess of international minimums, particularly those parent banks engaged in extensive interbank transactions, U.S. branches and agencies of other foreign banks may be at a competitive advantage compared with U.S. banks.[21] The 85 U.S. subsidiaries of foreign banks, however, are subject to the same capital and regulatory requirements as other U.S. commercial banks.

U.S. branches and agencies of foreign banks account for 84 percent of the total bank assets held by foreign banks in the United States. According to the latest FDIC count, only 52 of the 383 U.S. branches of foreign banks, representing less than 1.5 percent of the assets of these foreign bank offices, accept retail deposits (amounts less than $100,000) and, therefore, pay deposit insurance.[22] Most U.S. branches of foreign banks have the advantages of no deposit insurance payments and of access to the broad capital base of their parent banks. Although their parent bank's capital requirements may be lower than those of U.S. banks, for other reasons parent banks may maintain higher capital levels than required by international minimum capital standards.

Of course, both U.S. and foreign banks operating in the United States have to compete with non-bank financial institutions that lend to U.S. businesses, such as U.S. and foreign securities, finance and insurance companies. Therefore, both U.S. and foreign banks may be at a relative disadvantage due to the cost of meeting more stringent capital requirements.

Although the banking industry as a whole has benefitted from more uniform and stringent capital and supervisory requirements, and from greater regulatory flexibility on entering new businesses, higher capital requirements and asset quality problems have put pressure on lending by both U.S. and foreign banks over the past few years. Lending may also have been affected by the need to accumulate more capital in order to qualify as "well capitalized," for those banks that elected to meet these higher capital standards. The total capital to meet the new higher minimum capital requirements for U.S.-insured commercial and savings banks (9,115 banks including 53 U.S. subsidiaries of foreign banks) that have been qualified so far by the FDIC as "well capitalized," is about $142 billion, an estimated $29 billion above the minimum capital requirements set by the Basle Accord. These "well capitalized" banks represent 75 percent of the number and nearly half of the assets of commercial banks in the United States (Statistical Appendix C, Table 4B-7B).

Now that these banks have accumulated the capital to meet the higher capital standards, and many are continuing also to improve the quality of their assets, they will be in a better position to compete in financial markets as the higher capital and lower risk reduces funding costs. The ability to enter new businesses, and the lower deposit insurance premiums for "well capitalized" banks, provide offsets to the cost of maintaining additional capital. Based on FDIC data, banks with the top capital and supervisory ratings (see box) are estimated to save about $364 million per year in deposit insurance premiums (Statistical Appendix C, Tables 4B-7A and 4B-7B). While this is a substantial sum, it is relatively small compared with the additional $29 billion in capital, representing an annual rate of return of less than 1.3 percent.[23]

The amounts of additional capital which these "well-capitalized" banks accrued do have implications for their lending ability, compared to that of banks meeting only the minimum international or U.S. standards. As noted previously, higher amounts of capital by some parent banks have few implications for business lending since they were accrued to enhance capital positions for interbank operations. For other banks, $29 billion in capital represents a significant additional cost, as it could have supported potential lending in the $290-$360 billion range, depending on whether an 8 percent or 10 percent capital reserve is required, nearly equivalent to the total $358.4 billion in U.S. business lending by foreign banks in 1991.

The means by which banks (including U.S. subsidiaries of foreign banks) met the capital requirements provide insights into why lending was restricted. Many banks, both U.S. and foreign, achieved compliance with the higher capital requirements by (1) "asset shrinkage," that is, reducing the level of risk-adjusted assets by increasing holdings of securities and reducing business loans (Figure 4B-4), and by (2) increasing their capital from increased earnings (partly due to cost reductions), reductions in dividend payouts, and by stock issuance. U.S.-insured commercial banks did not rely primarily on shifting to U.S. Government instruments in order to meet capital requirements,[24] perhaps because although these assets have a zero weight for purposes of determining the amount of risk-adjusted assets, the continued U.S. leverage requirement still requires "Tier 1" or "core" capital equivalent to a minimum 4 percent of total bank assets. Rather than just expanding their holdings of U.S. government instruments, "asset shrinkage" by U.S.-insured banks was accomplished largely by increasing rapidly their holdings of higher yield mortgage-backed securities, and this accounted for over 90 percent of the overall rise in total securities held by these banks since 1987 (Figure 4B-5). Thus an indirect impact of this shift, partly in response to increased capital requirements, appears to be increased liquidity in the housing market and a greater ability to adjust to the asset quality problems which banks in many regions have experienced in residential real estate. Over 90 percent of these mortgage-backed securities are guaranteed in some form by the Federal Government.

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[21] The guidelines used by the Federal Reserve Board for assessing whether foreign bank capital is equivalent to U.S. standards, for purposes of forming a bank holding company, for acquisition of bank assets, and for Board approval prior to a foreign bank establishing a branch or agency, are designed "...to assure that any differences in capital standards do not place U.S. banks at a competitive disadvantage in their own market." See "Capital Equivalency Report," *op. cit.*, pp. 42-44.

[22] Of these U.S. branch offices of foreign banks, 23 have qualified as "well capitalized," but according to the Federal Reserve Board, while these branch offices qualify for lower deposit insurance rates, they will not be allowed to enter into new businesses unless their parent banks meet capital requirements equivalent to those required for "well capitalized" U.S. commercial banks.

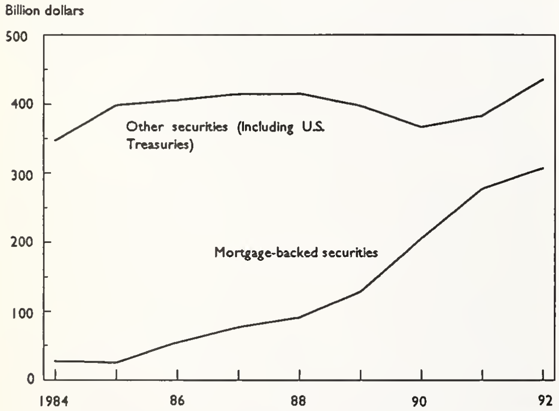
[23] This calculation is based on $1.721 trillion in total assets held by these banks, an 82.2 percent ratio of risk-adjusted to total average assets, from the Top 50 data in Table 4B-5 of Statistical Appendix C to this chapter, and the FDIC deposit base data from Statistical Appendix C, Table 4B-7B.

Foreign Banks--No Offset to U.S. Banks' Lending Decline

Business loans reported by U.S. banks declined sharply in 1991, down over $42 billion following a small decline in 1990. Aggregate U.S. business lending by U.S. branches and agencies of Japanese banks fell as well, decreasing by $7 billion in 1991, and reflected largely sharp reductions in direct lending, or loans held, by U.S. offices of four of Japan's and the world's larger banks.[25] The decreased lending by these and other Japanese banks reflected their difficulties in meeting minimum international capital standards, due to a sharp reduction in the values of the non-bank stocks they held as assets.[26] Japanese banks' international assets (those assets held or controlled by offices outside the home country) fell 8.9 percent from $2.12 trillion in 1990 to $1.93 trillion at the end of 1991.

While non-Japanese banks reported increased U.S. lending of $20.4 billion in 1991, this apparent offset did not represent new business lending to U.S. companies. Rather, it represented offshore loans to U.S. businesses that were shifted or rebooked to U.S. offices of Canadian and European banks. In fact, business loan rebookings to onshore U.S. locations by only four banks, one each from Canada, Switzerland, Netherlands, and France,[27] equalled the total reported lending rise by non-Japanese banks (Statistical Appendix C, Table 4B-6), confirming that foreign as well as domestic banks decreased business lending in the United States in 1991. According to data collected by the Federal Reserve Board, large non-Japanese weekly-reporting foreign banks operating in the United States began to shift loans from offshore to onshore offices in early 1991, mainly in response to the December 1990 reduction from three to zero percent in the FRB Eurocurrency reserve requirement for funding U.S. loans by foreign banks operating in the United States.

Figure 4B-5
Mortgage-Backed and Other Securities Held in the United States by U.S.-Insured Banks



Source: *Inside Mortgage Securities*, published by Inside Fortgage Finance Publications, Inc., Bethesda, Maryland.

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[24] See the newsletter, *Inside Mortgage Securities*, published by Inside Mortgage Finance Publications, Inc., various issues, (Bethesda, Maryland).

[25] Sanwa Bank, Dai-Ichi Kangyo Bank, Sakura Bank, and Mitsui Trust and Banking Company (see Statistical Appendix C, Table 4B-6). Table 4B-6 in Statistical Appendix C contains a listing of the 25 largest foreign bank families in the United States, world ranks based on asset size of the parent bank, and 1990-1991 changes in U.S. assets and business loans.

[26] Japanese banks may include as part of supplementary or "Tier 2" capital up to 45 percent of the unrealized gains on nonbank stocks.

[27] Bank of Nova Scotia, Algemene Bank Nederland, Union Bank of Switzerland, and Societe Generale, Paris. All of these banks reported increases in C&I loans in 1991 ranging from $3.5 to $6 billion (Statistical Appendix C, Table 4B-6).

5

Foreign Direct Investment in the United States: The Data Link Project and Establishment Data for 1987[1]

*by Ned G. Howenstine and William J. Zeile**

With the completion of the initial phase of the project linking data from the Bureau of Economic Analysis (BEA) and the Bureau of the Census in June 1992,[2] data on U.S. affiliates are now available on an establishment, or plant, basis for the first time. Before the link project, most data on U.S. affiliates were from BEA and were available on an enterprise, or company, basis. The BEA enterprise data are classified primarily on an "industry of affiliate" basis; that is, affiliates are classified in the industry in which they have the largest sales. For example, if 51 percent of an affiliate's sales are in wholesaling, and 49 percent in the manufacture of autos, data -- FDI position, property, plant and equipment spending, sales, employment, value added, payroll -- are grouped under wholesaling. BEA data on sales and employment are also disaggregated by "industry of sales," which more closely approximates the actual activities of the affiliate.[3]

The data link project provides more detailed and precise information about the industrial activities of U.S. affiliates than the BEA enterprise data. The new data cover the number, employment, payroll, and shipments or sales of the establishments of U.S. affiliates of foreign companies in 1987.[4] The data are disaggregated by industry in much finer detail than previously available (more than 800 industries, up from 135).

The initial data link covered 1987 because that was a benchmark, or census, year for both agencies. In late 1993, expanded information will be published for 1989 and 1990 on the manufacturing establishments of U.S. affiliates; this information will include most of the items covered by the Census Bureau's Annual Survey of Manufactures.

The overall conclusions in Chapter 4 on the operations of U.S. affiliates are buttressed by the data from the data link project reported in this chapter. The new data enable comparison of foreign-owned firms' activities with those of U.S.-owned firms at the establishment level, allowing assessments of foreign-owned firms' market shares, employment shares, and skill levels. The data available on an enterprise basis involved industry comparability problems that often clouded the firmness of conclusions. Moreover, the new data permit analysis of questions which previously could not completely be addressed using only BEA data. For example, data from the link project are detailed enough to adjust for differences in industry mix. By standardizing for industry mix of foreign-owned and U.S.-owned establishments, the extent to which U.S. affiliates pay higher wages than U.S.-owned firms, because they are concentrated in higher wage industries rather than because they, in fact, are paying higher wages within given industries, can be determined. Similarly, the new data allow more detailed analysis of the industry characteristics of FDI by country of owner, in terms of capital intensity, skill levels, and R&D intensity. The link project also provides much more detailed industry data within individual states; previously, only data by state broken down into a few broad industry categories were published.

The establishment data for U.S. affiliates shed new light on the characteristics of FDIUS and help answer key questions, such as the following:

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[1] The chapter is an adaptation and extension of "Foreign Direct Investment in the United States: Establishment Data for 1987", *Survey of Current Business*, October 1992 (Vol. 72, No. 10), pages 44-78. It presents only summary data from the project. For more detailed data, see Bureau of Economic Analysis and Bureau of the Census, *Foreign Direct Investment in the United States: Establishment Data for 1987* (Washington, DC: U.S. Government Printing Office, June 1992).

[2] In addition to the exchange of data with the Census Bureau, the Foreign Direct Investment and International Financial Data Improvements Act of 1990 also authorized BEA to give the Bureau of Labor Statistics (BLS) access to its foreign direct investment data so that BLS could identify foreign-owned establishments in its data base. Last year, BLS released data on the number, employment, and payroll of foreign-owned establishments in 1989 and 1990.

[3] See Appendix, Glossary, for complete definitions of industry of affiliate and industry of sales.

[4] A U.S. affiliate is a U.S. business enterprise that is owned 10 percent or more, directly or indirectly, by a foreign person. "Person" is broadly defined to include any individual, corporation, branch, partnership, associated group, association, estate, trust, or other organization and any government (including any corporation, institution, or other entity or instrumentality of the government). For convenience, the establishments of U.S. affiliates of foreign companies are sometimes referred to in this chapter as "foreign-owned establishments." The data presented here for these establishments are not adjusted for percentage of foreign ownership. Thus, for example, the employment data include all employees of any given establishment, even though the foreign investor may own less than 100 percent of the affiliate to which the establishment belongs.

- How much of U.S. industry is owned by foreign companies? The new data indicate that foreign-owned establishments accounted for only 4 percent of the employment of U.S. businesses. In manufacturing, foreign-owned establishments' employment share was 7 percent. In nearly one-half of 459 detailed manufacturing industries, foreign-owned establishments' employment shares were less than 5 percent; their employment share exceeded 25 percent in only 5 percent of these industries. In a very small number of industries, these establishments accounted for over 50 percent of all-U.S.-business employment.

- Where do foreign companies locate their U.S. operations? Over one-fourth of the employment by foreign-owned establishments is in three States—California, New York, and Texas; their share of total State employment is largest in Delaware (13 percent) and Hawaii (7 percent).

- How does the compensation of employees of foreign-owned businesses compare with that of U.S.-owned businesses? According to the new data, the payroll per employee of foreign-owned establishments was 29 percent higher than that of U.S.-owned establishments. In manufacturing, it was 12 percent higher. However, most of this difference was due to foreign-owned establishments' concentration in industries with relatively high payroll per employee. For example, for the 201 manufacturing industries with more than 10 foreign-owned establishments, their payroll per employee was 9 percent higher than that for U.S.-owned establishments, but after adjustment for differences in industry mix, the difference was only 3 percent.

- Do foreign-owned establishments employ larger amounts of capital and skilled labor than other establishments? They tend to be in industries that rely more on physical capital (plant and equipment): The average employment share for foreign-owned establishments was significantly higher in the 50 most capital-intensive manufacturing industries than it was in the 50 least capital-intensive—15 percent, compared with 4 percent. Similarly, they tend to be in industries that have a more skilled labor force: The average employment share for foreign-owned establishments was significantly higher in the 50 most skill-intensive manufacturing industries than it was in the 50 least skill-intensive—13 percent, compared with 2 percent.

- Do foreign-owned establishments spend relatively more for research and development than other establishments? This cannot be measured directly with the new data; however, foreign-owned establishments tend to be concentrated in the U.S. industries with the most research and development activity. In the manufacturing industries with the highest research and development activity, the average share of total employment for foreign-owned establishments was 12 percent, considerably above their average employment share of 7 percent in all other manufacturing industries.

This chapter explores these and other questions that can be addressed using the new establishment data. The remainder of the chapter consists of four sections and a technical note. The first section explains how the establishment data differ from and complement the enterprise data on FDIUS that BEA collects. The second provides an overview of the establishment data for 1987. The third compares the payroll per employee of foreign-owned and U.S.-owned manufacturing establishments. The fourth examines characteristics of the manufacturing industries in which foreign-owned establishments are most active. The technical note describes differences between the establishment and enterprise data in terms of coverage, definition, measurement, and classification.

Establishment and Enterprise Data Compared

Because the establishment data more precisely measure activities in particular industries and are more detailed than enterprise data, they are especially useful for analyzing the activities and importance of U.S. affiliates of foreign companies in specific industries. On an establishment basis, data are collected for each plant or location of an enterprise, and these data are classified by industry according to the major activity of that plant or location. On an enterprise basis, in contrast, all of a company's plants or locations are consolidated in a single report and classified in a single industry—the one that accounts for the largest share of the company's activity. Because U.S. affiliates are often highly diversified, they are likely to have activities in industries other than the one in which they are classified.

Establishment data also provide industry information in greater detail than is appropriate for enterprise data. Because enterprises may be diverse, it is not meaningful to classify them in industries that are narrowly defined. Consequently, in the BEA data, enterprises are classified only at a level that roughly approximates the Standard Industrial Classification (SIC) three-digit level. At this level, there are 135 industries. Individual establishments are less diversified than enterprises, and they can be meaningfully classified at a more detailed level; accordingly, in the new establishment data, they are classified at the SIC four-digit level, which includes over 800 industries.

In addition, the establishment data provide much more detailed industry data within individual States than has been available in the past. Previously, data by State were available only for the major industry divisions and for a few two-digit industries. The establishment data expand the maximum detail shown by State to the SIC four-digit level.

The establishment data for U.S. affiliates complement BEA's enterprise data, which are needed for analyzing the overall significance of, and trends in, FDIUS and for compiling the U.S. international transactions accounts, the international investment position of the United States, and the U.S. national income and product accounts. The data on positions of and transactions between U.S. affiliates and their foreign parents exist only at the enterprise level. In addition, analyses of some topics, such as profits and taxes, are appropriate only at the enterprise level because the critical, nonduplicative financial and operating data—such as balance sheets and income statements—that are needed for these purposes exist only at that level.

At the aggregate level, total 1987 employment of foreign-owned establishments from the Census Bureau establishment data is virtually equal to total employment of foreign-owned enterprises from the BEA data. About 90 percent of the BEA affiliates with employment linked to one or more Census Bureau establishments, and these affiliates accounted for 97 percent of all affiliate employment. The linked affiliates' employment was almost the same in BEA's enterprise data and the Census Bureau establishment data—3,229,200 and 3,228,900, respectively. The 300-employee difference reflects the net effect of differences in coverage, definition, and measurement. (These differences are discussed in the technical note at the end of this chapter).

Although close at the aggregate level, the BEA and Census Bureau data for individual industries often differed significantly. The differences tended to be largest for the industries that contained a concentration of highly diversified enterprises—that is, enterprises with significant portions of their activities accounted for by establishments in secondary industries. The larger enterprises in wholesale trade and manufacturing tended to be particularly diversified. Almost one-half of the employment of foreign-owned enterprises in wholesale trade was accounted for by establishments in secondary industries—mainly manufacturing, retail trade, and services. Similarly, about one-fourth of the employment of foreign-owned enterprises in manufacturing was accounted for by establishments in secondary industries—mainly wholesale trade, retail trade, services, and mining.

Overview of the 1987 Establishment Data

The data link project showed that in 1987, foreign-owned U.S. companies had 66,900 establishments employing 3,228,900 workers with a payroll of $81.1 billion. These foreign-owned establishments accounted for 1 percent of the number, 4 percent of the employment, and 5 percent of the payroll of all U.S. business establishments.[5] Their shares of employment and payroll were larger than their share of the number of establishments because they tend to be larger, on average, than U.S.-owned establishments. Also, foreign-owned establishments tend to be more concentrated in industries, such as manufacturing, in which establishments were relatively large.

Table 5-1 shows, at a highly aggregated industry level, each of the items available for foreign-owned establishments: Number of establishments, employment, payroll, and shipments or sales.[6]

By Industry

Among the major industries, foreign-owned establishments' shares of all-U.S.-business employment were largest in mining (14 percent), manufacturing (7 percent), and wholesale trade (6 percent). Foreign-owned establishments also accounted for relatively large shares of payroll and shipments in these industries: In mining, 17 percent of both payroll and shipments; in manufacturing, 8 percent of payroll and 10 percent of shipments; and in wholesale trade, 8 percent of payroll and 15 percent of shipments. In order to simplify the discussion and because shipments or sales data are not available for some industries (see footnote 5), the remainder of this section focuses on employment.

Employment shares for foreign-owned establishments were smallest in agricultural services, forestry, and fishing and in construction (1 percent in each). They were also relatively small in transportation and public utilities and in services (2 percent in each).

Among the manufacturing industries shown in Table 5-1, employment shares for foreign-owned establishments were largest in chemicals (21 percent), petroleum and coal products (16 percent), stone, clay, and glass products (12 percent), primary metal industries (11 percent), and electric and electronic equipment (11 percent). Shares were smallest in apparel and other textile products (1 percent), "other manufacturing" (2 percent), lumber and wood

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[5] The all-U.S.-business data used for these comparisons were taken from the Census Bureau's Economic Censuses and County Business Patterns publications. Together, the data in these publications provide broad coverage of the U.S. economy, accounting for about 97 percent of private U.S. employment in 1987. In terms of types of establishments, industries, and geographic areas of the United States, the coverage of the all-U.S.-business data is the same as that for foreign-owned establishments (see the technical note at the end of this chapter).

[6] Shipments or sales data are available only for foreign-owned establishments in industries covered by the Census Bureau's 1987 Economic Censuses, which consist of the Census of Retail Trade, Census of Wholesale Trade, Census of Service Industries, Census of Transportation, Census of Manufactures, Census of Mineral Industries, and Census of Construction Industries.

Table 5-1
Overview of Establishment Data for U.S. Affiliates, by Industry of Establishment, 1987

Industry	Number of establishments	Number of employees	Millions of dollars		U.S. affiliates as a percentage of all U.S. businesses[1]			
			Payroll	Shipments or sales	Establishments	Employment	Payroll	Shipments or sales
All industries	66,878	3,228,896	81,065	n.a.	1.1	3.7	4.7	n.a.
Agricultural services, forestry, & fishing	96	2,106	51	n.a.	0.1	0.5	0.8	n.a.
Mining	1,299	97,622	3,645	26,525	3.9	14.0	16.8	16.8
Construction/2/	643	51,422	1,647	9,142	0.1	1.0	1.5	1.8
Manufacturing	8,151	1,311,398	36,696	237,106	2.2	6.9	7.7	9.6
Food & kindred products	747	110,164	2,583	28,504	3.6	7.6	8.5	8.6
Textile mill products	116	29,319	557	2,794	1.9	4.4	4.9	4.5
Apparel & other textile products	57	9,466	154	802	0.2	0.9	1.1	1.2
Lumber & wood products	130	13,849	279	1,840	0.4	2.0	2.2	2.6
Furniture & fixtures	69	15,406	257	1,266	0.6	3.0	2.8	3.4
Paper & allied products	273	43,261	1,240	8,319	4.3	7.1	7.4	7.6
Printing & publishing	456	51,761	1,277	6,426	0.7	3.5	3.8	4.7
Chemicals & allied products	1,148	171,759	5,732	54,599	9.5	21.1	22.9	23.8
Petroleum & coal products manufacturing	213	18,201	679	26,197	9.5	15.7	17.0	20.1
Rubber & miscellaneous plastics products	417	64,220	1,551	8,319	2.9	7.7	8.8	9.6
Stone, clay, & glass products	849	64,525	1,681	9,275	5.2	12.3	13.6	15.1
Primary metal industries	311	78,119	2,292	17,834	4.7	11.1	11.6	14.8
Fabricated metal products	401	61,434	1,607	7,305	1.1	4.2	4.6	5.0
Machinery, except electrical	675	115,976	3,193	14,289	1.3	6.3	6.3	6.6
Electric & electronic equipment	562	170,320	4,028	21,438	3.5	10.9	10.4	12.5
Transportation equipment	163	55,783	1,568	14,679	1.6	3.1	2.7	4.4
Of which:								
Motor vehicles & equipment	97	40,456	1,141	12,890	2.2	5.4	4.8	6.3
Instruments & related products	320	72,839	1,980	7,761	3.1	7.4	6.9	7.2
Other manufacturing/3/	170	34,284	720	5,458	0.6	1.9	1.3	8.8
Administrative & auxiliary	1,074	130,712	5,318	n.a.	10.8	10.6	11.3	n.a.
Transportation & public utilities/4/	2,164	94,284	2,339	n.a.	1.0	1.8	1.7	n.a.
Wholesale trade	12,789	343,348	10,907	380,137	2.7	6.1	8.2	15.1
Of which:								
Motor vehicles & equipment	839	30,233	881	79,851	1.8	6.3	8.9	24.4
Retail trade	24,403	628,793	7,096	54,022	1.6	3.5	4.0	3.6
Finance, insurance, & real estate/2/	8,316	310,852	12,120	n.a.	1.6	4.6	7.1	n.a.
Services	9,058	390,674	6,611	16,302	0.6	2.4	2.3	2.1
Private education & noncommercial establishments	14	225	6	13	0.1	0.1	0.1	0.1
Unclassified establishments	47	567	15	n.a.	0.1	0.3	0.3	n.a.

n.a.: Not available.

1. In accordance with Census Bureau practice, percentages between 0 and 0.15 are shown as 0.1.
2. Includes "land subdividers and developers, except cemeteries" (SIC 6552).
3. Consists of the following SIC two-digit industries: Tobacco products, leather and leather products, and miscellaneous manufacturing industries.
4. Excludes railroads.

NOTE.—In this table, unlike in most BEA tables published elsewhere on direct investment, petroleum is not shown as a separate major industry. Instead, in order to be consistent with Census Bureau practice, data for the various petroleum subindustries are distributed among the other major industries. Thus, manufacturing includes petroleum and coal products, wholesale trade includes petroleum wholesale trade, retail trade includes gasoline service stations, and so on.

Table 5-2
Distribution of Manufacturing Industries by Foreign-Owned Establishments' Employment Share, 1987

Percent of total industry employment by foreign-owned establishments	Number of industries
0	35
0.1 - 4.9	175
5.0 - 9.9	114
10.0 - 14.9	60
15.0 - 19.0	29
20.0 - 24.9	21
25.0 or more	25

products (2 percent), furniture and fixtures (3 percent), and transportation equipment (3 percent). Within transportation equipment, foreign-owned establishments' share of total employment in motor vehicle manufacturing, which includes both automobile and truck manufacturing, was 5 percent.

At the SIC four-digit level, foreign-owned establishments had operations in 424 of the 459 industries in manufacturing. Their shares of total employment varied considerably across these 424 industries. In 175 of these industries, foreign-owned establishments accounted for under 5 percent of total employment, whereas in 25 industries, they accounted for over 25 percent (Table 5-2). In a few of the industries in the latter group, they accounted for over 50 percent of total employment. For example, in both hydraulic cement and noncellulosic organic fibers (which consists mainly of polyester and nylon manufacturing), foreign-owned establishments accounted for more than 60 percent of total employment.

As might be expected, most of the four-digit industries with the largest employment shares for foreign-owned establishments were in the two-digit industries with the largest shares for foreign-owned establishments. For example, of the 25 four-digit industries in which the foreign-owned share was 25 percent or more, 9 were in chemicals, 5 were in primary metals, and 3 were in electric and electronic equipment. However, some were in the two-digit industries—such as food, textiles, and nonelectrical machinery—in which foreign-owned establishments had relatively small employment shares.

By Country

Establishments with ultimate beneficial owners (UBO's) in the United Kingdom and Canada had by far the largest employment.[7] British-owned establishments had 662,000 employees—20 percent of all employment by foreign-owned establishments. Canadian-owned establishments had 540,000 employees, 17 percent of the total. The next largest employers were German-owned establishments, with 392,000 employees (12 percent), and Japanese-owned establishments, with 296,000 employees (9 percent).

In manufacturing, the distribution of employment by country of UBO was similar to that for all industries combined. In mining, establishments with UBO's in Canada, the United Kingdom, and the Netherlands had the largest employment. In wholesale trade, establishments with UBO's in Japan had the largest employment; establishments with UBO's in the United Kingdom and Germany also had sizable employment.

Within manufacturing, distributions of employment by country of UBO varied substantially among individual industries. An example is the distributions for stone, clay, and glass products and for electric and electronic equipment—two of the manufacturing industries in which foreign-owned establishments accounted for relatively large shares of all-U.S.-business employment. In stone, clay, and glass products, employment was highly concentrated in British-owned establishments, which accounted for 37 percent of employment by all foreign-owned establishments in the industry. In contrast, in electric and electronic equipment, employment by foreign-owned establishments was more evenly distributed: Establishments with UBO's in four countries—the United Kingdom, the Netherlands, Japan, and Germany—each accounted for 14 to 29 percent of employment by all foreign-owned establishments in the industry.

In the other three manufacturing industries in which foreign-owned establishments accounted for relatively large shares of all-U.S.-business employment—chemicals, petroleum and coal products, and primary metals—the distributions of employment by country of UBO were neither as concentrated as that for stone, clay, and glass nor as dispersed as that for electric and electronic equipment. In chemicals, establishments with UBO's in two countries—Canada and Germany—accounted for particularly large shares of total employment by foreign-owned establishments. Similarly, in petroleum and coal products, establishments with UBO's in the Netherlands and in the United Kingdom had particularly large employment shares. In primary metals, establishments with UBO's in three countries—Japan, Canada, and France—had particularly large shares.

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[7] An "ultimate beneficial owner" (UBO) is that person, proceeding up a U.S. affiliate's ownership chain, beginning with and including the foreign parent, that is not owned more than 50 percent by another person. A "foreign parent" is the first person outside the United States in a U.S. affiliate's ownership chain that has a direct investment interest in the affiliate. Note that a UBO, unlike a foreign parent, may be a U.S. person. A U.S. affiliate (and its establishments) must, by definition, have a foreign parent (that is, a foreign person must own at least 10 percent of it), even if the UBO is a U.S. person.

By State

The States with the largest employment by foreign-owned establishments were California (376,000 employees), New York (335,000), and Texas (218,000). The States in which foreign-owned establishments accounted for the largest shares of employment were Delaware (13 percent) and Hawaii (7 percent). The next largest shares were in New Jersey, North Carolina, South Carolina, and West Virginia (6 percent each).

In manufacturing, foreign-owned establishments had the largest employment shares in Delaware (38-75 percent), Alaska (19 percent) and West Virginia (17 percent).[8] In Delaware, the large share reflected a foreign owner's minority stake in a U.S. chemical company that had substantial employment in the State. In Alaska, foreign-owned establishments accounted for almost one-third of all food manufacturing employment, most of which was in fish and seafood processing. In West Virginia, foreign-owned establishments accounted for over 50 percent of chemicals manufacturing employment.

In mining, foreign-owned establishments accounted for significant shares of total employment in many States. Over 50 percent of all U.S. mining employment was in seven States—Texas, Louisiana, Oklahoma, California, Kentucky, West Virginia, and Pennsylvania—and in each of these States, foreign-owned establishments accounted for at least 12 percent of the mining employment. The largest share—22 percent—was in West Virginia. In Texas, Louisiana, and Oklahoma, foreign-owned establishments had particularly large employment shares in oil and gas extraction. In California, their share was particularly large in nonmetallic minerals mining. In Kentucky, West Virginia, and Pennsylvania, they had a particularly large share in coal mining.

Payroll per Employee of Foreign- and U.S.-Owned Manufacturing Establishments

A key question concerning foreign direct investment is how the compensation of employees of foreign-owned businesses compares with that of U.S.-owned businesses. Data from the link project on payroll per employee indicate that the foreign-owned establishments overall tend to pay more than their U.S.-owned counterparts, but that much of the difference reflects industry-mix effects—that is, a tendency for employment by foreign-owned establishments to be concentrated in industries with above-average payroll per employee. The remaining difference may reflect such factors as employee skill levels, location, hours worked, and organization of labor markets.

For all industries combined, payroll per employee for foreign-owned establishments was quite high relative to that for U.S.-owned establishments—$25,106, or 29 percent higher than the $19,416 for U.S.-owned establishments. However, as payroll per employee at successively lower levels of aggregation is examined, the difference in rates of pay between the two groups of establishments tends to shrink. For example, the differences were much smaller or negative—12 percent, 14 percent, and minus 6 percent, respectively—in manufacturing, retail trade, and services—three one-digit SIC industries that collectively accounted for nearly three-fourths of employment by foreign-owned establishments. The remainder of this section further explores the difference in payroll per employee in manufacturing, the industry with the largest employment by foreign-owned establishments.

In manufacturing, payroll per employee for foreign-owned establishments was $27,983, 12 percent higher than the $24,886 for U.S.-owned establishments (Appendix C, Table 5-1). At the two-digit SIC level, payroll per employee was higher for foreign-owned than for U.S.-owned establishments in most manufacturing industries; for one-half of the two-digit industries, the difference was more than 10 percent.

In some cases, the results for the two-digit SIC industries reflect a tendency for foreign-owned establishments to be concentrated in the four-digit SIC industries with the highest payroll per employee. For example, in stone, clay, and glass products (a two-digit industry), payroll per employee for foreign-owned establishments was about 12 percent higher than that for U.S.-owned establishments. Much of this difference, however, reflects foreign-owned establishments' large share of employment in four-digit industries, such as flat glass and hydraulic cement, that are among the top 50 in terms of payroll per employee and their very low share of employment in four-digit industries, such as cut stone and miscellaneous pottery products, characterized by low payroll per employee.

Even at the four-digit level, however, payroll per employee of foreign-owned establishments is significantly higher than that for U.S.-owned establishments in many industries. In 100 of the 201 four-digit manufacturing industries with at least 10 foreign-owned establishments,[9] payroll per employee for foreign-owned establishments was at least 5 percent higher than that for U.S.-owned establishments; in contrast, payroll per employee for foreign-owned establishments was at least 5 percent lower in only 38 industries (Table 5-3).

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[8] A range, rather than a specific amount, is shown for Delaware because the precise amount for this cell is suppressed to avoid disclosing confidential information of individual companies.

[9] In industries with only a few foreign-owned establishments, the industry ratio of payroll per employee may be distorted by the special circumstances of one or more establishments. When establishments are created or shut down during the year, data for the numerator may not be comparable with data in the denominator. Because of this problem, the payroll-per-employee comparisons for four-digit industries were limited to industries with at least 10 foreign-owned establishments.

Differences in payroll per employee can be examined from a somewhat different perspective by standardizing the industry mix of both foreign-owned and U.S.-owned establishments, in order to isolate the effects of within-industry differences. Unlike the above analysis, which counted industries with above- or below-average payroll per employee without regard to industry size, this alternative procedure takes account of industry size, giving heavier weight to the larger industries. After standardizing for differences in industry mix, only about a third of the total 9-percent difference in payroll per employee for the 201 industries is found to be attributable to a higher payroll per employee in foreign-owned establishments than in U.S.-owned establishments within the same industry.[10]

Payroll per employee for foreign-owned establishments may have been higher in some individual industries because these establishments had an occupational mix weighted more heavily with higher skilled occupations than other establishments in the same industry, perhaps reflecting the use of different technologies. Other factors may have also played a role. For example, foreign-owned establishments may have paid higher wage rates at a given skill level than U.S.-owned establishments because they tended to be located in high-wage areas or because they faced labor market conditions that differed from those faced by U.S.-owned establishments. The relative importance of these factors cannot be assessed with currently available data. However, in late 1993, additional information from the project linking BEA and Census Bureau data will facilitate evaluation of their relative importance; a key series will be data on the hourly wage rates paid by foreign-owned establishments.

Table 5-3

Ratio of Payroll per Employee in Foreign-owned Establishments to that in U.S.-owned Establishments

Ratio range	Number of industries
At least 15 percent lower	12
Between 5 and 15 percent lower	26
Within 5 percent lower or higher	63
Between 5 and 15 percent higher	52
More than 15 percent higher	48

Characteristics of Manufacturing Industries with Substantial Foreign Investment Activity

In addition to examining how foreign-owned establishments differ from their U.S.-owned counterparts (as was done for compensation of employees in the last section), the new FDIUS establishment data can be used in conjunction with other data to answer another key question concerning foreign investment--namely, in what types of U.S. industries are foreign businesses most likely to invest? This section constructs a profile of the manufacturing industries in which FDIUS is most prominent, based on data on the characteristics of the industry as a whole. The characteristics examined--capital intensity, skill level of the workforce, plant scale, and research and development (R&D) activity[11]--are those for which data are readily available and are among those frequently mentioned as being important determinants of foreign direct investment.[12] Measures of capital intensity, skill level, and plant scale are constructed using data from the 1987 Census of Manufactures for 459 separate manufacturing industries. R&D activity is gauged using more aggregated data for 54 manufacturing industries from a BEA survey of U.S. direct investment abroad.[13]

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[10] This statement is based on the results of the following decomposition of the $2,254 overall difference in payroll per employee in the 201 manufacturing industries combined:

where p = payroll per employee for all 201 industries combined

p_i=payroll per employee for industry i

s_i=share of ith industry in total employment of the 201 industries

The superscript "a" denotes data for foreign-owned establishments, and its absence denotes data for U.S.-owned establishments.

The first term on the right-hand side of the equation measures the effects of differences in industry mix ($1,495); the second term measures the effects of within-industry differences in payroll per employee ($587); and the third term reflects interaction between these two effects ($172).

[11] Data on several of these characteristics, which are now available only for all U.S. businesses in each industry, will become separately available for foreign-owned establishments next year, when the link is expanded to include items from the Annual Survey of Manufactures.

[12] For example, some argue that foreign direct investment will be undertaken mainly by firms possessing an advantage, such as proprietary technology or superior management, that offsets the disadvantages associated with operating in a distant and alien environment. Firms with such advantages tend to be in industries requiring advanced technologies or a highly skilled workforce. For summaries of these and other factors that may influence direct investment decisions, see Richard E. Caves, *Multinational Enterprise and Economic Analysis* (Cambridge: Cambridge University Press, 1982), and John Cantwell, "A Survey of Theories of International Production," in C.N. Pitelis and R. Sugden, *The Nature of the Transnational Firm* (London: Routledge, 1991).

[13] A question of major interest that cannot be answered from the industry data is the degree to which foreign-owned establishments utilize "critical technologies" affecting national security or long-term economic competitiveness. The U.S. Department of Defense and the National Critical Technologies Panel have published lists of critical technologies that itemize both the processes that use such technologies and the specific products that embody them. However, these processes and products cannot be readily associated with industry information, even at the four-digit level, because most industries produce a mix of products, some of which embody critical technologies and some of which do not. In addition, multiple technologies may exist for producing some products, and information is not available to determine which technologies have been adopted by specific establishments.

The statistical analyses of the data on foreign-owned establishments and characteristics of the industry as a whole indicate that in 1987:

- Foreign-owned establishments tended to be more active in manufacturing industries characterized by higher capital intensity. In the most capital-intensive industries, their share in total employment was 15.0 percent, compared with a share of only 4.2 percent in the least capital-intensive industries.
- Foreign-owned establishments were more concentrated in manufacturing industries that require a higher level of employee skill. In the most skill-intensive industries, their average employment share was 12.5 percent, compared with a share of 2.4 percent in the least skill-intensive industries.
- No significant relationship existed between foreign ownership activity and the average scale of plant operations.
- At the more aggregated level of 54 manufacturing industries, there was a significant tendency for foreign-owned establishments to operate in industries with the most R&D activity. Their average share of employment in R&D-intensive industries was 12.0 percent, compared with a 7.3-percent share in other industries.

Capital Intensity, Skill Level, and Plant Scale

Based on data from the 1987 Census of Manufactures, measures of capital intensity, skill level, and plant scale have been constructed for each of the 459 four-digit manufacturing industries. Capital intensity (the utilization of physical capital relative to labor) is measured as the nonpayroll share of value added (the share of factor payments not going to wages and salaries).[14] Skill level (sometimes termed human capital intensity) is measured in two ways: (1) Payroll cost per employee, which reflects both occupational structure and the accumulation of skills within occupations, and (2) wages per hour of production workers, a less comprehensive measure that reflects the skills of production workers only. Plant scale (the average scale of plant operations in an industry) is measured as value added per establishment.

The measures of capital intensity, skill level, and plant scale are related to foreign investment activity, measured as the share of industry employment accounted for by foreign-owned establishments (Appendix C, Table 5-2). Across the 459 industries, foreign investment activity is most strongly correlated with capital intensity (measured as the nonpayroll share of value added), suggesting that foreign-owned establishments were most active in industries with automated production processes. The average value of this measure increases from less than 60 percent in the 35 industries in which foreign-owned establishments have zero employment to about 70 percent in the 29 industries in which the foreign-owned establishments' share of employment ranged from 15 to 20 percent. The average is 66 percent in the 25 industries with the most foreign investment activity.

The tendency for foreign-owned establishments to operate in capital-intensive industries can also be seen by comparing their activity in the 50 most capital-intensive industries with their activity in the 50 least capital-intensive industries. The average employment share of foreign-owned establishments in the 50 most capital-intensive industries was 15.0 percent, almost four times their average share of 4.2 percent in the 50 least capital-intensive industries. Among the 50 most capital-intensive industries, foreign-owned establishments accounted for at least 15 percent of employment in 21 industries (17 of which were in food processing or chemicals) and less than 1 percent of employment in only 6 industries. Among the 50 least capital-intensive industries, foreign-owned establishments accounted for at least 15 percent of employment in only 2 industries (both of which were in household furniture) and less than 1 percent of employment in 14 industries.

Foreign-owned establishments also tended to be most active in industries requiring a high level of employee skill (Appendix C, Table 5-2). Foreign investment activity is positively correlated with both payroll per employee and production worker hourly wages.[15] In the table, the industry averages for these two measures display a nearly uniform tendency to increase with foreign investment activity. Average payroll per employee increases from $18,933 in the 35 industries with zero employment by foreign-owned establishments to $27,380 in the 25 industries with the most foreign investment activity. Between these same two groups of industries, the average value of hourly wages of production workers increases from $8.39 to $11.87.

Across the 459 industries, the two measures of worker skill level were highly correlated with one another: The industries with higher payroll per employee were also the industries with higher hourly wages for production workers.[16] For payroll per employee, the average employment share of foreign-owned establishments in the 50 most skill-intensive industries was 12.5 percent, more than five times their average employment share of 2.4 percent in the 50 least skill-intensive industries. Among the 50 most skill-intensive industries, foreign-owned establishments accounted for at least 15 percent of employment in 15 industries (8 of which were in chemicals) and for less than 1 percent of employment in 8 industries (3 of which were in aerospace). Among the 50 least skill-intensive industries, foreign-owned establishments accounted for at least 15 percent of employment in only 1 industry and for less than 1 percent of employment in 32 industries (22 of which were in textiles and apparel). Similar results hold for hourly wages of production workers.

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[14] Because the data needed to measure it directly are not available, capital intensity is measured indirectly by the share of factor payments not going to labor.

[15] The industries with high employee skill requirements are not necessarily the ones with high capital intensity. The coefficient of correlation across industries between payroll per employee (skill level) and the nonpayroll share of value added (capital intensity) is 0.254.

[16] The coefficient of correlation between payroll per employee and production worker wages per hour is 0.959.

The results in Appendix C, Table 5-2 show no correlation between foreign investment activity and the measure of plant scale (value added per establishment). Foreign investment activity was high both in industries with large-scale plant operations (for example, industries in chemicals, primary metals, and food processing) and in industries with small-scale plant operations (for example, industries in furniture, machinery, and stone, clay, and glass products). Employment by foreign-owned establishments was zero in two of the top four industries in terms of value added per establishment—guided missiles and space vehicles, and cereal breakfast foods.

Country analysis. The industry characteristics can be related to the employment shares for establishments of each of six major investing countries—Canada, France, Germany, Japan, the Netherlands, and the United Kingdom. These six countries together accounted for three-quarters of the manufacturing employment of all foreign-owned establishments in 1987. Except for plant scale, which is not significantly correlated with the employment shares of any of the six countries, the relations vary significantly among the countries according to their industry composition of investment. Across the 459 industries, the measure of capital intensity is significantly correlated with the employment shares of all of the countries except France and Japan. Both measures of employee skill level are significantly correlated with the employment shares of Canada, Germany, and the United Kingdom, but not with those of the other three countries.

The relationship between the employment shares of the establishments and industry capital intensity, as measured by the nonpayroll share of value added, differs across the six investing countries (Appendix C, Table 5-3). Among the six countries, the correlation between the share of employment and industry capital intensity is strongest for British-owned establishments. The average employment share of British-owned establishments increases from 0.4 percent in the 5 industries with the lowest capital intensity to 5.8 percent in the 29 industries with the highest capital intensity. In 7 of the 29 industries in the latter group, the share for British-owned establishments was greater than 10 percent. Altogether, British-owned establishments accounted for at least 3 percent of employment in 21 of the 50 most capital-intensive industries; 14 of these 21 industries were in food processing and tobacco products.

The relation between the employment shares of the establishments and payroll per employee, the broader measure of employee skill level, is significantly different among the six investing countries (Appendix C, Table 5-4). Among the six countries, the correlation between the share of employment and the skill level of the workforce is strongest for German-owned establishments. The average employment share of German-owned establishments increases from 0.2 percent for the 54 industries with payroll per employee under $15,000 to 2.2 percent for the 41 industries with payroll per employee between $30,000 and $35,000. Altogether, German-owned establishments accounted for at least 3 percent of industry employment in 13 of the 50 industries with the highest payroll per employee; 8 of the 13 were in chemicals.

Research and Development

Enterprise data on employees engaged in R&D are collected by BEA for U.S. parent companies with direct investment abroad and are classified by BEA's International Surveys Industry (ISI) code. For manufacturing, there are 54 ISI groups. Because U.S. parent companies account for a large share of economic activity in most U.S. manufacturing industries, the ratio of R&D employees to total employment in a given industry for these companies is taken to be representative of the degree of R&D activity in the industry as a whole.[17] To relate this measure to data on foreign-owned establishments, employment shares of foreign-owned establishments in the 54 ISI manufacturing groups were calculated.

The relationship between R&D activity in these 54 industries and the foreign-owned establishments' employment shares—total and by country—is shown in Appendix C, Table 5-5. Across the 54 industries, the share of employment accounted for by all foreign-owned establishments is mildly correlated with the percentage of employees engaged in R&D.[18] The average share increases from 6.6 percent in the 21 industries with an R&D

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[17] The R&D employment data used here are from BEA's 1989 Benchmark Survey of U.S. Direct Investment Abroad. An alternative source of enterprise data on R&D by manufacturing industry is that published by the National Science Foundation (NSF) in Research and Development in Industry: 1987. The suppression by NSF of the R&D data for some industries, however, severely limits the usefulness of the NSF published data for cross-industry statistical analysis. The NSF published data are also considerably more aggregated than the BEA data on the R&D of U.S. parent companies. In Table B-2 of the NSF report, data on R&D employment and total company employment are reported for 12 of the 20 SIC two-digit industries in manufacturing. To check for consistency with the NSF data, the BEA data on R&D employment and total company employment by ISI group were aggregated to the SIC two-digit level. Across the 12 two-digit industries for which NSF published data are available, the coefficient of correlation between the R&D employment ratio using BEA data and the ratio using NSF data is 0.919.

[18] The share of employment by foreign-owned establishments is also mildly correlated with an alternative measure of industry R&D activity—expenditures on R&D performed for U.S. parent companies as a percentage of U.S. parent company sales, which was also available from BEA data.

employment ratio of less than 2 percent to 13.9 percent in the 7 industries with an R&D employment ratio of 6-8 percent, then drops to 8.7 percent in the 4 industries with an R&D employment ratio of 8 percent or more. The figure for the latter group was depressed by the low share (less than 2 percent) in "other transportation equipment." Most of the R&D activity in this industry, which includes aircraft and guided missiles, is by defense-related companies, which are effectively shielded from acquisition by foreign companies.[19] The average employment share for foreign-owned establishments in the other three industries in the group was 11.1 percent.

In the 11 industries with an R&D employment ratio of 6 percent or more (hereafter referred to as "high-technology industries"), the average employment share was 12.0 percent, almost twice as large as the 7.3-percent average share in the other 43 industries. If "other transportation equipment" is excluded, foreign-owned establishments' average employment share in the high-technology industries was 13.1 percent.[20] Among individual industries, foreign-owned establishments accounted for at least 10 percent of the employment in 5 of the 11 high-technology industries; 3 of these industries were in chemicals, and 2 were in electric and electronic equipment.

Among the six major investing countries, the correlation between employment shares and R&D activity is strongest for Japan and Germany. Among the high-technology industries, Japanese-owned establishments had relatively large employment shares in the computer and electronics industries, and German-owned establishments had large shares in chemicals. The correlation between employment shares and R&D activity is weakest for British-owned establishments, which had relatively large employment shares in a number of industries—mostly in food processing and in stone, clay, and glass products—with very low R&D employment ratios.

Technical Note

BEA's data on foreign-owned enterprises were linked to the Census Bureau's establishment data primarily by matching employer identification numbers (EINs). EINs are identification numbers that companies are required to use when filing Federal and State payroll and income taxes; they were reported on BEA's 1987 benchmark survey of foreign direct investment in the United States and are included in the Census Bureau's establishment files. Some enterprises could not be linked, based on EINs; in many of these cases, a link was established by using other identification information, such as names and addresses.

Overall, about 90 percent of the BEA affiliates with employment linked to one or more Census Bureau establishments.[21] Based on the BEA data, affiliates that linked had 3,229,200 employees and accounted for 97 percent of the employment of all U.S. affiliates (Appendix C, Table 5-6).[22]

In most industries, virtually all of the employment of BEA enterprises was accounted for by affiliates that linked to Census Bureau establishments. Of the 104,700 employees of affiliates that failed to link, most were in manufacturing (54,200 employees), services (15,800), and wholesale trade (9,200).

For affiliates that linked, the employment total based on the Census Bureau establishment data, at 3,228,900 (column 3 of Appendix C, Table 5-6), was very close to the total based on BEA's enterprise data. The 300-employee difference (column 4) reflects the net effect of differences in coverage, definition, and measurement.

Coverage differences exist partly because the Census Bureau data do not cover agricultural production of crops and livestock or railroad transportation, whereas the BEA data do. Also, the Census Bureau data cover only the 50 States and the District of Columbia, whereas the BEA data also cover Puerto Rico, the Virgin Islands, Guam, American Samoa, U.S. offshore oil and gas sites, other outlying U.S. areas, and the employees of U.S. affiliates working abroad. Based on the BEA data, employment in the industries and geographic areas covered by the BEA data but not by the Census Bureau data was 47,300 in 1987.

The effects of differences in definition and measurement partly offset the effects of the differences in coverage. For example, in the BEA data, employment is defined as the level at the end of the affiliate's fiscal year. In the Census Bureau data, employment is defined as the level during the pay period that includes March 12. End-of-year employment can differ from March 12 employment because of seasonal factors and because some establishments begin or discontinue operations during the year.

The BEA and Census Bureau employment totals also differ because of the few cases in which employment of a given company was measured incorrectly in one or the other data set. In some of these cases, companies provided estimates of their employment, rather than actual counts, when reporting to one of the agencies.

For some individual industries, the difference between the BEA and Census Bureau employment totals is quite large. The principal reason for these differences is that, as discussed earlier, the data are classified differently by industry in the two data sets: The BEA data are classified by primary industry of the consolidated enterprise, whereas the Census Bureau data are classified by the industry of each individual establishment, or plant, within the enterprise. Differences in the industry employment totals are largest in mining (BEA's total is 66,200 employees lower than the Census Bureau's total), manufacturing (BEA's total is 267,600 higher), retail trade (BEA's total is 74,900 lower), and services (BEA's total is 116,200 lower). Within manufacturing, the largest differences are in chemicals (BEA's total is 220,900 higher) and petroleum and coal products (BEA's total is 72,300 higher).

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[19] Barriers to the acquisition of defense-related companies were formalized by the passage in 1988 of the Exon-Florio amendment to the Defense Production Act. This amendment grants the President authority to suspend or prohibit foreign acquisitions, mergers, or takeovers that threaten to impair the national security.

[20] If this industry is excluded, the coefficient of correlation between the R&D employment share and the affiliate share of employment is 0.404 instead of 0.286.

[21] To be consistent with the all-U.S.-business data published by the Census Bureau, the U.S.-affiliate establishment data cover only firms with employment.

[22] The BEA employment totals in column 1 of table H are from U.S. Department of Commerce, Bureau of Economic Analysis, *Foreign Direct Investment in the United States: 1987 Benchmark Survey, Final Results* (Washington, DC: U.S. Government Printing Office, August 1990).

Appendix C, Table 5-7, provides additional information on how the differences in coverage, definition, measurement, and industry classification affect the industry distribution of the data. Like Appendix C, Table 5-6, Appendix C, Table 5-7 shows the BEA enterprise and the Census Bureau establishment employment totals for U.S. affiliates that linked (columns 1 and 2). However, in Appendix C, Table 5-7, the Census Bureau employment data are classified by the BEA industry rather than by the Census Bureau industry—that is, column 2 shows the distribution of Census Bureau employment data that would result if the employment of all establishments were classified in the primary industry of the enterprise of which they were a part. This approach removes the effects of classificational differences between the two data sets, leaving, as shown in column 25, only the effects of differences in coverage, definition, and measurement. For example, for agriculture, forestry, and fishing, the BEA employment total is 10,000 employees higher than the Census Bureau total largely because, as noted earlier, coverage of agriculture is broader in the BEA data. Other industries with relatively large differences are services (BEA's total is 36,300 lower), finance, insurance, and real estate (BEA's total is 23,900 lower), and manufacturing (BEA's total is 25,000 higher). In each of these industries, the differences are primarily due to differences in measurement. For example, in services, a few companies that provide temporary employment services reported much smaller employment to BEA than to the Census Bureau; when reporting to BEA, they treated some of their temporary workers as private contractors, whereas when reporting to the Census Bureau, they treated these workers as employees.

Appendix C, Table 5-7 also breaks down each industry's enterprise-based employment total into the industries of the establishments. That is, for each BEA industry, columns 3-24 cross-classify the employment total shown in column 2 by the industry of each Census Bureau establishment. For example, column 2 shows that total employment in enterprises classified in wholesale trade is 321,100, whereas column 19 shows that only 169,600 of these employees actually worked in wholesale trade establishments. The remaining employees worked mainly in manufacturing (123,200), retail trade (10,700), and services (7,700) establishments. Similarly, total employment by enterprises classified in manufacturing is 1,463,200, but only 1,119,100, or about three-fourths of the total, worked in manufacturing establishments. The rest worked mainly in wholesale trade, retail trade, services, and mining establishments. For some industries, nearly all of the employment total on an enterprise basis remains in the same industry when that total is broken down by industry of establishment. For example, of the 536,300 employees of retail trade enterprises, 94 percent worked in retail trade establishments. Similarly, 89 percent of the 310,800 employees of services enterprises worked in services establishments.

The matrix format of Appendix C, Table 5-7 also enables one to see how the total for each industry on an establishment basis is distributed when cross-classified by industry of enterprise. The first row of the table shows the employment total for each industry on an establishment basis. Rows 2-23 show how the industry totals in row 1 are distributed by industry of enterprise. For example, the employment total for manufacturing establishments is 1,311,400 (row 1, column 6). Reading down the column for manufacturing shows that about 85 percent of this total (1,119,100 employees) was accounted for by enterprises classified in manufacturing, with most of the remaining employees working for enterprises classified in wholesale trade. In motor vehicle manufacturing, only one-third of the 40,500 employee total on an establishment basis was accounted for by enterprises classified in motor vehicle manufacturing. Almost one-half of the employment in the industry was accounted for by enterprises classified in motor vehicle wholesale trade. For some industries, most of the establishments were operated by enterprises classified in the same industries. For example, 95 percent of the employment by finance, insurance, and real estate establishments was accounted for by enterprises classified in that industry.

6

Influence of Foreign Direct Investment on the Development and Transfer of U.S. Technology

*by Sumiye Okubo McGuire and Donald Dalton**

Over the past several years, fears of declining U.S. competitiveness, especially in high-technology industries, have raised concerns about the growing level, and even the desirability, of FDIUS. At issue is whether the open U.S. policy toward FDIUS is speeding the erosion of U.S. competitiveness in high-technology and other industries, and therefore, on overall U.S. economic and employment growth. Underlying this issue are questions about the technology strategies and objectives of foreign firms investing in the United States, and the impact of their U.S. affiliates on U.S. science and technology development and its diffusion in the U.S. economy.

There are two contrasting perspectives on the impact of FDIUS on U.S. technological standing. The first view is that FDIUS reduces U.S. technological competitiveness because foreign firms invest in U.S. high-technology firms in order to gain technological advantage -- either by establishing "listening posts" to track new developments, or by "stripping out" and transferring the technology to their home country. According to this view, the entry of foreign firms into the U.S. market often displaces U.S.-owned firms, reducing competition in, and leading to foreign dominance of, the U.S. market for high-technology goods. The alternative view is that FDIUS is largely beneficial to the U.S. economy because FDIUS usually introduces new technologies into the U.S. market. From this perspective, FDIUS is a means for foreign-owned firms to exploit their technologies in the large and open U.S. market, providing jobs and often bringing in new technologies.

This chapter draws upon official data on FDIUS, newly released BEA-Census data on the activities of high-technology U.S. affiliates, and a survey of the case study literature on critical technologies, to give a broad perspective on this question. Despite some limitations in the data on foreign-owned firms in the United States, particularly regarding industry and product detail, five key conclusions emerge from the analysis.

- U.S. affiliates are only slightly more concentrated in high-technology industries than are U.S.-owned firms.

- High-technology U.S. affiliates have relatively small shares -- measured by employment, sales, or assets -- of most U.S. high-technology industries, but have significant shares of several; specifically audio and video equipment, plastics and synthetic chemicals, industrial inorganic chemicals, and drugs and medicines, in which they are Japanese-, German-, and British-owned. These affiliates may also hold larger shares in certain small niches within broad industry categories, but the data are not available at the detail needed to determine these shares.

- Affiliates tend to concentrate investment in the same broad industry categories as their parents, suggesting that they invest in sectors in which the parents are strong exporters, or have comparative advantage.

- U.S. affiliates have contributed to U.S. technological development, dramatically increasing their R&D spending in the United States over the past ten years. In manufacturing, they devote similar shares of sales to R&D investment as do U.S.-owned firms. Among the high-technology industries, they were more the R&D-intensive in drugs and audio, video, and communications equipment, and less R&D-intensive in the others, compared to U.S.-owned firms. The data on royalties and licensing fees show overwhelmingly greater payments than receipts, indicating a large net inflow of technology from foreign parents to their affiliates.

- Some foreign firms have used their U.S. affiliates to gain U.S.-developed, critical technologies and to displace U.S. firms. Acquiring existing, or establishing new, affiliates are, however, only two of many alternative methods of achieving these goals.

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There is little evidence that foreign acquisitions of small, U.S. high-technology firms have resulted in large scale technology transfer abroad.

This chapter focuses on R&D and technology transfer in terms of industry, rather than product, groups for which data are reported by the Bureau of Economic Analysis (BEA), the Bureau of Census, and the Bureau of Labor Statistics. Only data on the international trade of U.S. affiliates are currently available on a product basis. Lack of data on the specific technologies for which these firms make R&D expenditures limits analysis in terms of "critical technologies," as distinct from "high-technology" industries; these data are usually considered proprietary information by most firms, domestic and foreign. Finally, much of the increase in R&D spending by affiliates is due to acquisitions of existing firms, and the difficulty in separating data on R&D expenditures by newly acquired foreign-owned firms from that of existing foreign-owned firms makes comparisons of activities by U.S.- and foreign-owned firms over time difficult.

Definitions of High-Technology Industries and Critical Technologies

In order to examine FDI in U.S. high-technology industries and in critical technologies, these industries and technologies must be defined.

Defining Critical Technologies

Technologies are "critical" when they generate future innovations in a wide range of goods and services. Critical technologies are those that satisfy long-term national economic and scientific objectives, such as strong national defense, improved economic competitiveness, a rising standard of living, improved public health, and energy independence.[1]

By its very nature, a critical technology is only one of a number of technologies embodied in a given product category, usually in the most advanced products. In turn, these products are either final goods, or are used as capital goods in the production processes of one or more industries. For example, microelectronic technology is embodied in computers, communications equipment, scientific instruments, medical equipment, consumer electronics, aircraft, and automobiles, and in machine tool controls used as capital goods. Hence, the standard industry classification systems are too broad to capture the existence, the extent, and frequency with which any given critical technology is embodied in a product, and thus, reflected in an industry's output or trade data.

Because different groups have differing interests, the Department of Defense, the Department of Commerce, and the Congressionally mandated National Critical Technologies Panel headed by the White House Office of Science and Technology Policy[2] have each developed separate lists of "critical technologies." Each list includes the new technologies embodied in advanced materials, advanced manufacturing processes, information and communications, biotechnology and life sciences, and aeronautics and surface transportation, and subcategories therein, many of which overlap (Table 6-1).

Defining High-Technology Industries

High-technology industries are those that use these advanced technologies. This report uses the classification scheme developed by the Department of Commerce for studying U.S. high-technology industries (DOC-3 definition),[3] plus the addition of certain service industries. The DOC-3 definition, developed ten years ago, is based on industry classifications (three-digit SIC) that are fairly broad and have changed little over time.[4] Moreover, this definition has been employed by many researchers over the past ten years in analyses of high-technology trade and competitiveness, and provides a consistent, reproducible basis for comparison with other research results. This definition classifies industries by total R&D spending, including R&D directly embodied in the product as well as that indirectly embodied in inputs. This Commerce definition includes only goods-producing sectors (Table 6-2). Because of the growing importance of the services sector in the overall U.S. economy, and among foreign-owned U.S. firms, three high-technology service industries also are included: "Computer and data processing services" (SIC 737); "Engineering, architectural, and surveying services" (SIC 871); and "Research and testing services" (SIC 873).

Detailed establishment-level data, classified by industry, are used when available, such as those provided for

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[1] *Report of the National Critical Technologies Panel*, March 1991, Washington, D.C., pp. 1-6.

[2] U.S. Department of Defense, *Critical Technologies Plan*, March 15, 1990; U.S. Department of Commerce, Technology Administration, *Emerging Technologies: A Survey of Technical and Economic Opportunities*, Spring 1990; *Report of the National Critical Technologies Panel*, March 1991. For a review of these and other reports, see Mary Ellen Mogee, *Technology Policy and Critical Technologies: A Summary of Recent Reports*, Discussion Paper No. 3, The Manufacturing Forum, National Academy of Engineering and National Academy of Sciences (Washington, D.C.: National Academy Press, December 1991).

[3] Lester A. Davis, *Technology Intensity of U.S. Output and Trade*, Office of Trade and Investment Analysis, U.S. Department of Commerce, International Trade Administration, July 1982. This classification scheme is often referred to as "DOC-3." This definition of high-technology industries differs from that used in Chapter 5 and, thus, the findings in the two chapters differ somewhat.

[4] For a re-assessment of the usefulness of the DOC-3 definition over time, see Lester A. Davis, "Technology Intensity of U.S., Canadian, and Japanese Manufacturers Output and Exports," in *Technology and National Competitiveness: Oligopoly, Technological Innovation, and International Competition*, ed. by Jorge Niosi (Montreal: McGill-Queen's University Press, 1991), pp. 11-43.

Table 6-1

Comparison of National Critical Technologies with Department of Commerce Emerging Technologies and Department of Defense Critical Technologies

National Critical Technologies	Commerce Emerging Technologies	Defense Critical Technologies
MATERIALS		
● Materials synthesis/processing	● Advanced materials	● Composite materials
● Electronic & photonic materials	● Advanced semiconductor devices	● Semiconductor materials/micro-electronic circuits
	● Superconductors	● Superconductors
● Ceramics	● Advanced materials	● Composite materials
● Composites		
● High-performance metals & alloys		
MANUFACTURING		
● Flexible computer integrated manufacturing	● Flexible computer integrated manufacturing	
● Intelligent processing equipment	● Artificial intelligence	● Machine intelligence & robotics
● Micro- & nanofabrication		
● Systems management & technologies		
INFORMATION AND COMMUNICATIONS		
● Software	● High-performance computing	● Software producibility
● Microelectronics & optoelectronics	● Advanced semiconductor devices	● Semiconductor materials & micro-electronic circuits
	● Optoelectronics	● Photonics
● High-performance computing & networking	● High-performance computing	● Parallel computer architectures
● High-definition imaging & displays	● Digital Imaging	● Data fusion
● Sensors & signal processing	● Sensor technology	● Data fusion
		● Signal processing
		● Passive sensors
		● Sensitive radars
		● Machine intelligence & robotics
● Data storage & peripherals	● High-density data storage	● Photonics
● Computer simulation & modeling	● High-performance computing	● Simulation & modeling
		● Computational fluid dynamics
BIOTECHNOLOGY AND LIFE SCIENCES		
● Applied molecular biology	● Biotechnology	● Biotechnology materials & processes
● Medical technology	● Medical devices & diagnostics	
AERONAUTICS AND SERVICE TRANSPORTATION		
● Aeronautics		● Air-breathing propulsion
● Surface transportation technologies		
ENERGY AND ENVIRONMENT		
● Energy technologies		
● Pollution minimization, remediation, & waste management		
		● No National Critical Technologies or Commerce Emerging Tech. counterpart: High energy density materials, Hypervelocity projectiles, Pulsed power, Signature control, Weapon system environment.

Source: *Report of the National Critical Technologies Panel*, March 1991.

Table 6-2
High-Technology Industries Under DOC-3 Classification

Sector	SIC Class
Industrial inorganic chemicals	281
Plastic materials and synthetic resins, rubber and fibers	282
Drugs and medicines	283
Ordnance and accessories	348
Engines, turbines and parts	351
Office computing and accounting machines	357
Video, audio, and communications equipment	365, 366
Electronic components	367
Aircraft and parts	372
Guided missiles and spacecraft	376
Professional and scientific instruments	38

1987 by the BEA-Census data link project. However, time series data on FDIUS that have been published by BEA are not available for each of the original DOC-3 detailed industry groupings, and therefore, some industries have been aggregated.[5] For these reasons, the following industry categories are the framework for the analysis:

Sector	SIC
Industrial chemicals and synthetics	281,282,286
Drugs and medicines	283
Computers and office machines	357
Video, audio, and communications equipment	365, 366
Electronic components	367
Instruments and related products	38
Other transportation equipment	372-376, 379
Computer and data processing services	737
Engineering, architectural, surveying services	871

Extent of Foreign Direct Investment in U.S. High-Technology Industries

The rapid increase of FDIUS in the 1980s has raised concerns about foreign concentration in and dominance of U.S. high-technology industries. Comparisons of foreign-owned and U.S.-owned firms indicate that foreign firms are not concentrating in and do not dominate U.S. high-technology industries. Nonetheless, a small share of overall foreign direct investment has been made in high-technology industries, and foreign-owned firms account for a small but rising share of these industries.

Have Foreign Firms Concentrated in U.S. High-Technology Industries?

U.S. affiliates are only slightly more concentrated in high-technology industries than are U.S.-owned firms. The proportion of high-technology, manufacturing sales of U.S. affiliates to sales of all manufacturing affiliates is slightly higher than for U.S.-owned firms.[6] In 1987, the shares were 20 percent for U.S.-owned firms and 23.5 percent for U.S. affiliates.

Over the years, foreign firms do not appear to have given priority to direct investment in high-technology industries over non-high-technology sectors, although the proportion of FDI in high-technology industries has been gradually rising. The data show that high-technology affiliates' shares of foreign-owned firms' activities have been relatively stable over the 1980s when total FDIUS surged, suggesting that foreign firms were not targeting acquisitions in high-technology industries. Data on the foreign direct investment position, asset values, and property, plant, and equipment expenditures of all U.S. affiliates of foreign firms show that a relatively small, but slowly growing, share of their investments are in high-technology sectors compared to other sectors. The share in high-technology manufacturing industries, which has been larger, though not dominant, is also slowly growing. Employment and sales data indicate that foreign-owned firms' are slowly increasing their operations in high-technology industries compared to other industries.[7] (Tables 6-3 and 6-4.)

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[5] The FDI in high-technology industries by this definition is understated by excluding the "ordnance" industry, "engines, turbines, and parts" industry, and "research and testing services," and overstated by including some low-technology industries, such as "industrial organic chemicals," under industrial chemicals, and "ship and boat building, railroad equipment, and miscellaneous transport equipment," under the broad "other transportation equipment" category. Although classified as high-technology under DOC-3, the "engines, turbines, and parts" (SIC 351) industry and the "ordnance and accessories" (SIC 348) industry are excluded. The ordnance and accesories industry is excluded because FDI data for this industry are not collected separately, but are, instead, combined with data for two other three-digit industries withing the metal products group (SIC 34). The engines, turbines, and parts industry is excluded because the FDI data for this industry are suppressed in some years to avoid disclosure problems. On the other hand, "aircraft and parts" (SIC 372) and "guided missiles and spacecraft" (SIC 376) represent over 70 percent of "other transportation equipment," which has been included in its entirety. Similarly, "industrial organic chemicals" represents 40 percent of industrial chemicals and synthetics. (These percentages are based on sales data reported in Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce, *Foreign Direct Investment in the United States: Establishment Data for 1987*, June 1992.) Moreover, some data on the high-technology services industries are available only after 1983, and "research and testing services" are not reported separately over time.

The BEA-Census data link project helps to solve these aggregation problems by providing data on the number, sales, payroll, and employment of establishments (plants) of U.S. affiliates of foreign firms at detailed four-digit SIC categories in 1987. But these detailed high-technology industry categories are only roughly equivalent to industries in which critical technologies are important, and there is no one-to-one correspondence.

[6] Shares of all industries' sales could not be computed. The BEA-Census data link does not provide sales for agriculture, forestry, and fishing, transportation services, and finance, insurance, and real estate. Because sales for all industries are not available, manufacturing sales are used instead.

U.S. Affiliate Shares in U.S. High-Technology Industries

High-technology industries themselves represent only a small share of the overall U.S. economy, and U.S. affiliates of foreign firms own a relatively small proportion of all U.S. high-technology industries. Based on the 1987 BEA-Census Bureau data link[8] and the DOC-3 definition of high-technology industries,[9] high-technology, foreign-owned firms are only a small part of all high-technology firms, particularly those in the manufacturing sector, with 9 percent of their employment, 11.4 percent of their payroll, and 11.5 percent of their sales. These shares do not appear disproportionate, given the relative share of foreign direct investment in the U.S. economy (see Chapter 4A).

Table 6-3

High-Technology Affiliates' Share of FDI Position, Assets, and Property, Plant, and Equipment of All U.S. Affiliates (Percent)

Type of Investment	1980	1987	1990	1991
All Industries:				
FDI Position	14.3	14.2	14.9	15.5
Assets	9.7	10.3	11.4	na
Property, plant, equipment	13.3	18.5	17.5	na
Manufacturing Industries				
FDI Position	35.4	35.8	35.1	36.5
Assets	34.5	40.4	38.8	na
Property, plant, equipment	36.6	48.0	43.9	na

Source: Bureau of Economic Analysis

Table 6-4

High-Technology Affiliates' Share of Employment and Sales of All U.S. Affiliates (Percent)

	1980	1987	1990
Employment	16.2	15.5	15.6
Sales	7.6	10.4	10.6

Source: Bureau of Economic Analysis.

The importance of foreign-owned, high-technology firms in all U.S. high-technology industries, though small, has been steadily rising. Two sets of statistics -- employment data from the Bureau of Labor Statistics (BLS) and the BEA-Census Data Link -- support this conclusion.

High-technology affiliates accounted for an increasing share of the jobs in high-technology industries, rising from 8 percent of all U.S. high-technology firms in 1980 to 12 percent by 1990. Employment by high-technology affiliates grew 108 percent between 1980 and 1990, from 329,300 to 686,600 workers, compared to 33 percent employment growth of all U.S. high-technology firms, from 4.3 million to 5.7 million workers. A large part of this increase in employment share, however, resulted from a large number of acquisitions of U.S. high-technology firms, rather than from growth of employment in existing U.S. affiliates. According to unpublished BEA data, acquisitions represent one-fourth to three-fourths of the total year-to-year rise in employment in high-technology industries from 1987 to 1990.

Among the high-technology industries, the U.S. affiliates' shares of employment and number of workers varied widely. The largest, and some of fastest growing, shares are in "industrial chemicals and synthetics," "drugs," and "audio, video, and communications equipment." The smallest, slower growing shares are in "other transportation equipment" (aircraft, guided missiles, and spacecraft), "computers and office equipment," and "electronic components and accessories" industries (Figure 6-1).

The BEA-Census data link project provides a more detailed picture of the extent and variation of participation

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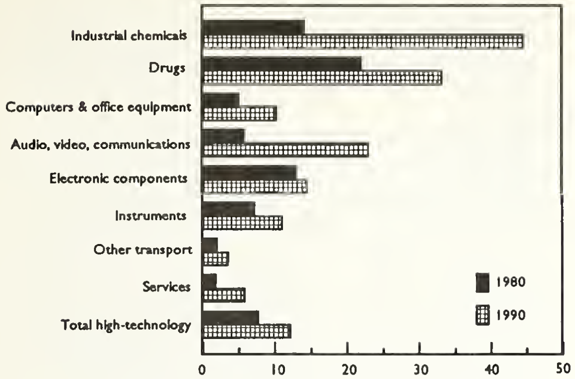
[7] These percentages are based on classification of affiliates by industry of sales, which approximate data by establishment from the BEA-Census Data Link Project, but are not exactly equivalent. BEA data on employment and sales are collected on both an industry of affiliate and industry of sales basis. See Glossary in Appendix for definitions.

[8] The Data Link provides the best available indicators of foreign participation in U.S. high-technology industries, even though it provides only a snapshot of FDI in the United States in 1987, and no change over time. Number of establishments, sales, payroll, and employment are the only data series available from the Data Link Project to date. Sales for total U.S. businesses and U.S. affiliates are not available because of missing data for agricultural services, forestry, and fishing industries and finance, insurance, and real estate. The Data Link Project will provide additional years and items next year. Sales data probably are the best measure for gauging the extent to which foreign firms participate in high-technology industries in the United States.

[9] The data from the data link project are sufficiently disaggregated in industry detail to use the DOC-3 definition of high-technology industries. These percentages may be understated to the extent that data for some industries have been suppressed for disclosure reasons; e.g., guided missiles and spacecraft.

Figure 6-1
U.S. Affiliates' Share of High-Technology Employment, 1980-90



Sources: Bureau of Economic Analysis and Bureau of Labor Statistics.

in U.S. high-technology industries by U.S. affiliates in 1987. U.S.-owned firms dominated sales in nearly all U.S. high-technology industries, except for the audio and video equipment industry (Table 6-5). U.S. affiliates in this industry had more than 50 percent of total U.S. industry sales, and have long dominated sales in this industry. In three other industries, foreign-owned firms have made inroads in market share:

- Affiliates held more than a one-third share of total U.S. industry sales in plastics and synthetics.
- They had 25 percent of total U.S. industry sales in industrial inorganic chemicals.
- Affiliates had over 20 percent of the U.S. drugs and medicines industry.

In contrast, "aircraft and parts" (guided missiles and spacecraft data have been suppressed to avoid disclosure problems) showed the least participation by foreign-owned firms,[10] with less than 2 percent of the industry's total sales, and foreign-owned firms in "high-technology services" had less than 4 percent of total industry sales. Affiliates' shares of total number of establishments and total employment provide similar patterns.

In two, more narrowly-defined, high-technology industries, foreign-owned firms held relatively large shares of sales in 1987. Affiliates producing "manmade organic fibers, noncellulosic" (SIC 2824, mostly nylon, polyester) account for 62 percent of industry sales,[11] and for 24 out of 71 total establishments in the industry, with most of the affiliate establishments (20 out of 24) German- or Canadian-owned. Foreign-owned affiliates producing "biological products, except diagnostic," (SIC 2836) account for 39 percent of the industry's sales, with sixteen of the 19 affiliate establishments, European-owned. These data suggest that the size of these foreign-owned establishments are large compared to the average size of U.S.-owned establishments (total number of establishments equaled 241).

Table 6-5
High-Technology Establishments of Foreign owned Affiliates as a Share of All U.S. Businesses in 1987
(in percent)

Industry	Number of Establishments	Employment	Payroll	Sales
All U.S. Businesses	1.1	3.7	4.7	N/A
All High-Technology Industries (manufacturing and services)	1.8	7.1	8.5	9.9
High-Technology Manufacturing	4.9	9.0	11.4	11.5
Industrial inorganic chemicals	23.8	19.3	18.9	25.2
Plastics materials and synthetics	18.4	38.2	37.9	34.2
Drugs	8.0	19.4	21.6	23.6
Ordnance and accessories	3.2	7.6	7.2	9.1
Engines and turbines	4.5	6.0	5.7	3.7
Computer and office equipment	2.7	7.0	6.4	5.7
Household audio and video equipment	2.8	33.8	35.1	52.8
Communications equipment	5.9	13.9	12.3	14.7
Electronic components and accessories	3.1	9.2	9.1	9.2
Aircraft and parts	2.5	1.9	1.6	1.7
Guided missiles, spacecraft	2.8	(D)	(D)	(D)
Instruments and related parts	3.1	7.4	6.9	7.2
High-Technolgy Services:				
Computer and data processing services	1.1	3.5	4.4	3.9
Engineering and architectural services	0.6	2.1	2.7	3.6
Research and testing services	2.5	4.0	4.8	4.0

Notes: (D) - Suppressed so that confidential information on individual companies would not be divulged.
Source: Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce, *Foreign Direct Investment in the United States: Establishment Data for 1987.*

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[10] U.S. firms in "aircraft and parts" and "guided missiles and spacecraft" are shielded from foreign acquisition by, among other factors, the Exon-Florio amendment to the Defense Production Act.

[11] Includes a major U.S. chemical company with minority (though greater than 10 percent) Canadian ownership.

Differences Among Affiliates by Country of Parent

Data on FDI by country of ownership suggest that foreign firms have tended to concentrate in sectors in which they have strong export industries,[12] in both high-technology and non-high-technology industries. This section examines the pattern of high-technology FDI for the United Kingdom, Japan, and Germany. Although the Netherlands and Canada also rank among the top investors, data on direct investments in U.S. high-technology industries by these two countries are subject to confidentiality issues.[13]

Investment in High-Technology Industries by Country of Ownership

U.S. high-technology affiliates of Japanese, U.K., and German parent firms have held a large share of all U.S. high-technology affiliates' sales. Broad industry (but not establishment) level data for 1990 show that these three countries held almost 50 percent of all high-technology affiliates' sales. Within manufacturing, the proportions are higher, but do not suggest a uniform pattern of investing in high-technology: for all high-technology affiliates, their share of U.S. high-technology sales within manufacturing was 30.2 percent; for Japanese affiliates, 26.5 percent; for U.K. affiliates, 30.1 percent; and for German affiliates, 43.1 percent (Table 6-6).[14] Establishment data show similar shares for 1987 for all countries and for affiliates of each of the countries. The sales of each country's high-technology affiliates, however, represent only a small proportion of sales by all of its affiliates, with Japan having the lowest at 5.9 percent, followed by the U.K. at 12.1 percent, and Germany at 17.4 percent.

Among the high-technology industries, there are significant differences, and greater concentrations, by individual country of parent:

- German-owned affiliates have almost one-fourth, the highest share, of all affiliate sales in the industrial chemicals and synthetics industry.

- British-owned firms have the highest shares of sales in drugs (37 percent), in instruments (30 percent), and in computer and data processing services (25 percent).

- Japanese-owned affiliates dominate the affiliate sales in computers and office equipment (46 percent), in audio, video, and communications equipment (28 percent), and in electronic components (41 percent).

Table 6-6
Sales of Affiliates in High-Technology Industries, Selected Countries Industry of Sales, 1990
(Billion dollars)

Industry	All Countries	Japan	Germany	United Kingdom
Manufacturing:				
Industrial chemicals & synthetics	40.0	2.6	9.3	4.0
Drugs	18.8	0.7	2.9	7.0
Computers & office equipment	8.7	4.0	0.3	1.5
Audio, video, & comm. equipment	15.4	4.3	1.1	0.6
Electronic components	10.6	4.3	1.3	1.5
Other transportation equipment	4.8	*	0.2	1.9
Instruments & related products	13.7	1.6	2.5	4.1
Services:				
Computer & data processing	6.2	0.6	0.2	1.5
Engineering & architectural	5.0	0.3	0.8	0.8
All high-technology	123.2	18.5	18.7	22.6
All manufacturing	370.4	66.3	41.1	68.3
All industries	1,168.5	313.2	107.5	188.9
High-technology mfg. as percent of all mfg.	30.2%	26.5%	43.1%	30.1%
High-technology mfg. & services as percent of all industries	10.6%	5.9%	17.4%	12.1%

*$7 million.
Source: Bureau of Economic Analysis, *Foreign Direct Investment in the United States: Operations of U.S. affiliates of Foreign Companies, Preliminary Estimates, 1990.*

Certain countries' firms dominate U.S. affiliates' shares of total U.S. sales in individual high-technology industries. The BEA-Census data link, however, cannot distinguish if U.S. affiliates have systematically sought to gain major market shares in any single high-technology sector, or if they have sought to exploit a competitive advantage in that sector. Affiliates of Japanese, German, and British parents have less than 2 percent of total 1987 sales in any high-technology industry, with four exceptions:

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[12] See Dorothy B. Christelow, "U.S.-Japan Joint Ventures: Who Gains," *Challenge* (November-December, 1989), pp. 29-38, for estimates of changes in comparative advantage and patterns of industry specialization for the United States and Japan between 1974 and 1989, and for an analysis of joint venture decisions by Japanese firms in sectors in which they have a comparative advantage.

[13] Sales of high-technology affiliates of Canadian and Dutch parents in a number of these industries are suppressed, so that confidential information on individual companies are not divulged.

[14] The estimated share of high-technology affiliates with Japanese parents of all Japanese affiliate sales probably has doubled between 1987 and 1990, but data have been suppressed for two of the 9 industry groups.

- Japanese-owned affiliates had 32.2 percent of total industry sales in the video and audio equipment industry, but 7.1 percent of total industry sales if sales in communications equipment are included.

- German-owned affiliates had 9.2 percent of total industry sales in the plastics and synthetics industry, and 6.7 percent of total industry sales in the industrial inorganic chemicals and synthetics industry.

- British-owned affiliates had 8.5 percent of total industry sales in drugs,[15] 7.3 percent of total industry sales in industrial inorganic chemicals (only 3 percent if synthetics is added to inorganic chemicals), and 2.6 percent of total communications equipment industry sales.

Number of Acquisitions as an Indicator of Technology Targeting

Number of acquisitions has been used by some researchers as an indicator that foreign firms have "targeted" an industry in order to gain a dominant market share. "Targeting" refers to foreign firms of a country systematically focusing investment in a group of high-technology firms, or their technologies, or market share of a high-technology industry. Five major investing countries -- Canada, Germany, the Netherlands, the United Kingdom, and Japan -- accounted for 60 to 80 percent of all foreign acquisitions in high-technology industries over the 1987 to 1990 period. Nevertheless, no one country appears to dominate these transactions in any given high-technology industry over the entire four-year period. (Table 6-7.)

- Among the major investors, British firms were the most active with 194 high-technology acquisitions and establishments, followed by Japan with 145. The least active was the Netherlands.

- Most of the acquisitions and establishments by these five countries occurred in electronic components and accessories (112), instruments (88), and computers and office equipment (53). Japanese firms and British firms were the largest investors in these three industries.

- Japanese firms had proportionately more new establishments (as opposed to acquisitions) than firms from other countries, averaging about one-third of investments in new establishments.

The numbers of acquisitions and new establishments do not appear to indicate that firms from any one country have sought to dominate a given market, but these data can be misleading if considered alone.[16] These data do not provide relative size of acquisition or relative size of sales, which are needed to determine extent of concentration in the industry. Moreover, numbers of acquisitions and new establishments provide no information on the types or importance of any technology accessed or gained.

Table 6-7

Number of High-Technology Firm Acquisitions and Establishments by Major Investing Country, 1987-1990

Industry	Canada	Germany	Netherlands	United Kingdom	Japan	Total 5 Countries	Total All Countries
Industrial Chemicals & Synthetics	1	9	6	23	7	46	75
Drugs	1	2	1	6	7	17	26
Engines & Turbines	2	1	0	1	1	5	7
Computers & Equipment	2	6	6	19	20	53	77
Audio, Video, & Communications Equipment	6	1	0	12	6	25	31
Electronic Components	11	6	5	42	48	112	154
Other Transport	1	1	0	10	1	13	21
Instruments	4	10	1	46	27	88	131
Computer & Data Processing Services	11	1	5	19	11	47	72
Engineering & Architectural Services	3	3	1	12	5	24	39
R&D & Testing Services	1	5	0	4	12	22	30

Source: Bureau of Economic Analysis, unpublished data.

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[15] Although data for Swiss firms not available separately, it is likely that those firms also account for a large share of total industry sales in drugs.

[16] Data are classified according to primary industry of sales of the acquired or newly established U.S. business, rather than on the basis of industry of sales of each type of business in which the affiliate operates. To this extent, these data may not be comparable to data collected by individual researchers, and thus, comparisons should be made with caution.

Using Affiliates to Acquire U.S. Technologies

Despite limitations, available FDI data indicate that foreign firms are not using their U.S. affiliates to "strip out" U.S. technology. Rather, these data suggest that foreign-owned firms are contributing to U.S. R&D investment and technological developments.

The data show that U.S. affiliates have increased their R&D spending at a faster rate than the typical U.S.-owned firm, especially in high-technology industries. Their ratios of R&D to sales are close behind U.S.-owned firms in manufacturing industries, and almost equal in high-technology, manufacturing industries. The ratios are higher than U.S.-owned firms in the drugs and the audio, video, and communications equipment industries. They have established a number of in-house R&D facilities in the United States. The data also indicate a very large net inflow of technology from foreign parents to their affiliates.

R&D Spending and Other R&D Activities of Foreign-owned Firms

R&D spending by U.S. affiliates of foreign companies has accounted for a small, but rapidly rising share of that by all U.S. companies. According to National Science Foundation (NSF) data, R&D expenditures by all firms in all industries grew 20 percent between 1987 and 1990, from $61.4 billion to $73.8 billion.[17] In contrast, R&D spending by all U.S. affiliates increased nearly $5 billion to $11.3 billion in 1990 from $6.5 billion in 1987, a 74 percent rise, reflecting mostly large numbers of acquisitions of existing U.S. firms, rather than increases by existing U.S. affiliates.[18] Affiliates of three countries -- Japan, the United Kingdom, and Switzerland -- accounted for most of the increase; R&D spending in their U.S. facilities rose by about $1 billion for each country between 1987 and 1990, while German affiliates increased R&D spending by $600 million. The relatively more rapid increase in R&D spending by U.S. affiliates, compared to all U.S. firms, is reflected in the affiliates' share of total U.S. company-funded R&D expenditures; the share rose from 6.4 percent in 1980 to 10.6 percent in 1987 and 15.4 percent in 1990 (Figure 6-2).

R&D in High-Technology Industries. Foreign-owned firms account for a growing share of R&D expenditures in U.S. high-technology industries, reflecting in large part, the large number of foreign acquisitions of existing U.S. firms, rather than increases in spending by existing U.S. affiliates. The exact proportion of that increase in U.S. affiliate R&D spending attributed to acquisitions relative to existing affiliates cannot be determined.

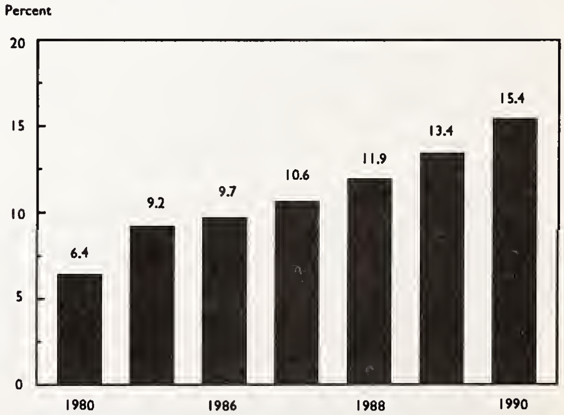
The U.S. affiliates' share of R&D spending in all high-technology, manufacturing industries increased to 17 percent in 1990 from about 13 percent in 1987. Among high-technology industries, however, the share of affiliates' R&D relative to total U.S. company-funded R&D varies widely (Figure 6-3).

- Affiliates accounted for a very large share of total R&D expenditures in the industrial chemicals and synthetic materials industry -- 59 percent in 1990, compared with 54 percent in 1987.

- The affiliates' share of total R&D spending in the drugs industry grew very rapidly from 27 percent in 1987 to 42 percent in 1990. The large share of affiliates' R&D spending in this industry in 1990 partly reflects several large foreign

Figure 6-2

U.S. Affiliates' Share of All Company R&D Performed in the United States



Sources: Bureau of Economic Analysis and National Science Foundation.

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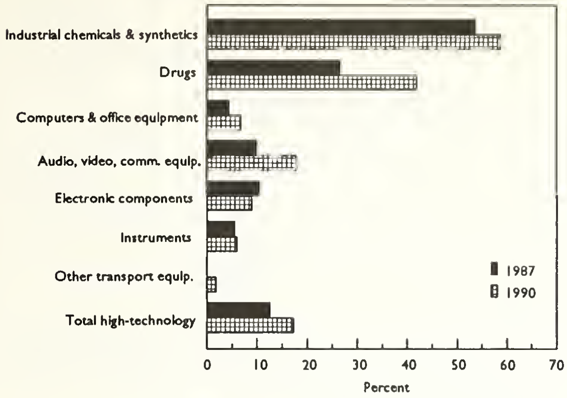
[17] National Science Foundation, Division of Science Resources Studies, *Selected Data on Research and Development in Industry: 1990.* Both BEA and NSF survey data used here are collected at the enterprise level, and exclude contract research by companies at universities and private laboratories. NSF, but not BEA, also collects and reports data that include contract research.

[18] The R&D spending by manufacturing affiliates may be understated, because of industry classification problems. BEA's R&D expenditures are classified by primary industry of sales. Thus, R&D spending by some industries may be grouped in wholesale trade even though a relatively large proportion of the affiliate's business may be in manufacturing though less than the largest. To account for this possibility, in this chapter, R&D spending of the wholesale trade of motor vehicles and equipment has been included with manufacturing of motor vehicles and equipment, especially since the value of their R&D spending is so much greater in wholesaling than in manufacturing. Including R&D spending by wholesaling in motor vehicles could overstate U.S. affiliates' spending relative to all U.S. companies, however. Available data cannot be used to determine the extent of this problem.

figure 6-3

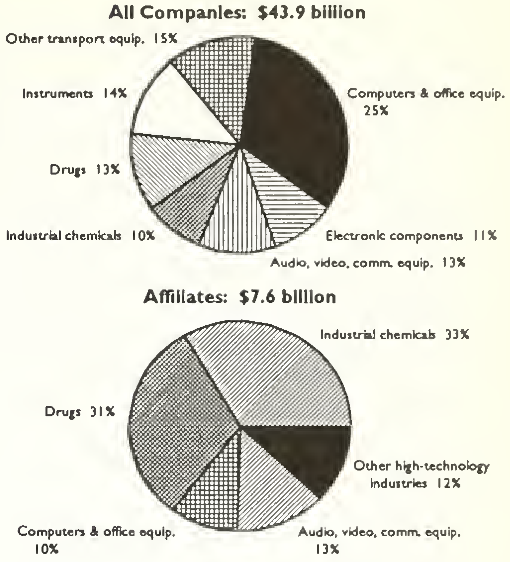
Affiliates' Share of R&D in U.S. High-Technology Industries, 1987 & 1990



Sources: Bureau of Economic Analysis and National Science Foundation.

Figure 6-4

Distribution of High-Technology R&D Spending, by All Companies & Affiliates, 1990



Sources: Bureau of Econmic Analysis and National Science Foundation.

acquisitions of U.S. drug companies and a minority ownership in a major U.S. drug company.[19]

- The share of total affiliate R&D spending in the audio, video, and communications equipment industry almost doubled between 1987 and 1990, from 10 percent to 18 percent of the total in that industry.

- U.S. affiliates' share of R&D spending in 1990 was very small in other industries.

The allocation of R&D spending across industries by U.S. manufacturing affiliates and all U.S. manufacturing firms differs significantly (Figure 6-4). Of total affiliates' R&D spending in manufacturing, U.S. affiliates devoted much more in the chemicals sector -- industrial chemicals (33 percent) and drugs (31 percent) -- than U.S. manufacturing companies which devoted 23 percent of their total R&D on that group of industries. U.S. affiliates in the computer industry accounted for 10.0 percent of the total, compared to all U.S. computer companies which allocated a large share of total spending (25 percent). The share of U.S. affiliates spending in other transportation equipment was less than 2 percent of total R&D spending by U.S. affiliates, compared to 15 percent for all U.S. transportation equipment companies in 1990.

Number and Size of R&D Facilities. U.S. affiliates of foreign companies differ significantly in number and size of R&D facilities. Japanese-owned companies seem to have more U.S. R&D facilities (150) than all other countries combined (Table 6-8). European companies have 95 U.S. R&D facilities, Korean companies, six, and Canadian companies, three.[20]

- Japanese affiliates operate a large number of U.S. design and research facilities partly because they are more active in U.S. R&D -- 62 companies in 1992, compared with 42 European firms, 6 Korean firms, and one Canadian company.

- Japanese-owned firms tend to have more R&D facilities --several Japanese electronics firms have 10 to 15 labs at different sites -- than other foreign companies. An exception is the German firm, Siemens, with more than 20 U.S. research facilities.

- Japanese-owned companies have more R&D centers in each industry than affiliates of all other countries combined, except in the biotechnology industry which is dominated by European companies.

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[19] Public-source information indicates that major acquisitions of U.S. companies with large R&D budgets included SmithKline Beckman by Beechman (U.K.) and Glaxo (U.K.).

[20] Data compiled by analysts in the Office of Business Analysis, Economics and Statistics Administration, U.S. Department of Commerce, from publicly available sources and from private corporations. These data include numbers of design studios, which are not considered research facilities by the National Science Foundation, and thus, possibly represent a significant overstatement of research facilities located in the United States -- as much as 80 percent above actual R&D facilities, according to one NSF analyst.

Table 6.8
U.S. R&D Facilities of Foreign Companies
Selected Industries and Companies, 1992

Industry	Japan	Germany	Korea	Netherlands	United Kingdom	Switzerland	Sweden	France	Other Countries
Computers	20	3	4	1					
Software	21	2	1	1					
Semiconductors	17	2	3	1					
Telecomm.	14	3	1				1		3
Opto-electronics	8	3							
HDTV	7	1	1	1				1	
Semiconductor Manuf. Equip.	5								
Medical Equip.	1	2							
Biotechnology	17	12		4	13	11	2	11	4
Automotive	29	7	3				1		

Source: Compiled by ESA, Office of Business Analysis from data from Japan Economic Institute, company officials and company publications, and industry trade journals.

- Japanese, as well as Korean, companies tend to have a separate R&D facility for each area of technology, while European firms tend to concentrate R&D activities at large central laboratories.

Moreover, available data indicate that European companies often employ three to four times more staff in their U.S. research centers than do Japanese firms, although information on R&D facilities is not complete.

Motivations for Setting Up R&D Facilities. Reasons for setting up R&D facilities frequently differ by industry of U.S. affiliates, and the characteristics and growth in affiliates' R&D facilities in the United States have changed over time. Japanese-owned auto firms have expanded the nature of their design centers to include more sophisticated research activities, in order to help the production facilities they established to produce vehicles for the U.S. market. Electronics companies have been locating their R&D laboratories in areas with large numbers of scientists and engineers, such as Silicon Valley or the Research Triangle in North Carolina.[21] European firms -- German firms in particular -- are moving biotechnology research to the United States because of an unfavorable regulatory environment for biotechnology research and manufacturing in Europe.[22]

Comparison of R&D Intensities of U.S. Affiliates of Foreign Firms and U.S. Firms

U.S. affiliates in all industries doubled their R&D intensity[23] -- the proportion of their sales devoted to R&D spending increased from 0.5 percent in 1980 to 1 percent in 1990. Japanese-owned affiliates in particular increased their R&D spending substantially, reflecting in part a shift in the composition of investments from wholesaling to manufacturing (see also Chapter 4a). U.S. manufacturing affiliates, with a 2.5 percent R&D-intensity ratio, were closely behind U.S.-owned manufacturing firms, which had a 2.8 percent ratio in 1990.

Among the high-technology industries, the R&D intensity of U.S. affiliates is highest for those in the drug industry, followed by those in computers, in audio, video, and communications equipment, and electronic components (Figure 6-5). Over the 1980s, U.S. affiliates in each high-technology, manufacturing industry have increased their proportion of R&D intensity, except for those in computers and office equipment. The ratios more than doubled for instruments and related products, and nearly doubled for household video, audio, and communications equipment and for electronic components. The already high R&D intensities have increased relatively little in industrial chemicals and synthetics and drugs, and drugs continues to have by far the highest ratio.

In 1990, the ratios for high-technology manufacturing were almost equal: U.S. affiliates in high-technology manufacturing had a ratio of 6.7 percent, and U.S.-owned

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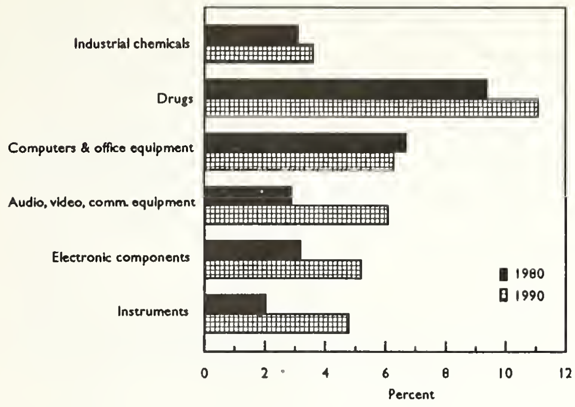
[21] See Donald Dalton and Manuel Serapio, *U.S. Research Facilities of Foreign Companies,* U.S. Department of Commerce, National Technical Information Service (Washington, D.C.), forthcoming.

[22] Emily Arakaki, "Trends in Foreign Direct Investment in U.S. Biotechnology" in *Foreign Direct Investment in the United States,* U.S. Department of Commerce, Economics and Statistics Administration, August 1991.

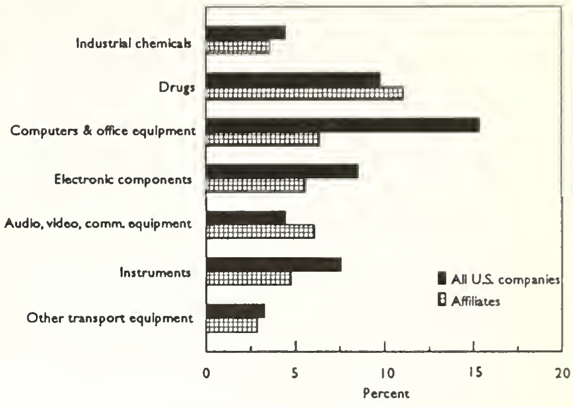
[23] For some purposes, a better indicator of resources devoted to R&D efforts is the ratio of R&D to value added, but value added data are not available on a comparable basis for all U.S. affiliates and U.S. companies in high-technology industries.

Figure 6-5
U.S. High-Technology Affiliates' Ratio of R&D to Sales, 1980 & 1990



Source: Bureau of Economic Analysis.

Figure 6-6
All U.S. Companies' and U.S. Affiliates' Ratios of R&D to Sales, 1990



Sources: Bureau of Economic Analysis and National Science Foundation.

firms, a ratio of 6.5 percent. Significant differences exist among the high-technology industries, nonetheless (Figure 6-6). The largest difference is in the computer and office equipment industry where the ratio for all U.S.-owned companies was more than double that of the U.S. affiliates. The ratio for U.S.-owned companies, on average, is almost double that of affiliates in the instruments and related products industry, and slightly higher in industrial chemicals. The major exceptions are the drugs industry and the audio, video, and communications equipment industry, in which U.S. affiliates have a slightly higher average R&D to sales ratio than all U.S. companies in these two industries.

Technology Transfer by U.S. Affiliates to their Foreign Parents

Measuring transfers of technology between companies requires using proxy variables, such as royalties and license fees.[24] Royalties and license fees are annual payments for the sale and use of intangible property rights, such as patents, industrial processes, trademarks, copyrights, franchises, know-how, and other intellectual property rights. Some observers believe that multinational corporations, U.S. and foreign, also often use these fees to shift costs from their firms in a low-tax to a high-tax country to minimize tax obligations. To the extent that these fees reflect such transfer pricing, the measurement of technology transfer (payments and receipts) between foreign parents and their U.S. affiliates may be misstated.

The data on royalty and license fees indicate that there has been an overwhelmingly large net inflow of technology to U.S. affiliates from their foreign parents. Net payments by U.S. affiliates to their foreign parents have increased from $378 million in 1980 to $2.1 billion in 1991 (Table 6-9). The United Kingdom received the largest payments of royalties and license fees, followed closely by Japan, Switzerland, and the Netherlands in 1991 (Table 6-10).

Payments by high-technology affiliates represent more than half of the total payments by U.S. affiliates in the manufacturing and services sectors to foreign parents (Table 6.11). British, German, and Japanese multinationals account for almost 60 percent of total royalties and license fee payments in high-technology industries. The growing deficit of affiliates' payments over their receipts suggests that foreign parents are transferring more technology to their affiliates in the United States than the reverse (Figure 6-7).

Much of the attention on technology transfer has focused on Japanese firms because of Japan's history of depending on foreign technology, and the high profile given by the press to the rapid growth in Japanese acquisitions of U.S. firms. However, a recent study of U.S.-Japan joint ventures indicates that these ventures may provide more technology to the United States than they do to Japan, largely because most of these ventures occur in industries in which Japanese firms have a competitive advantage.[25] Moreover, the most recent survey of all Japanese manufacturing companies by Japan's Science and Technology Agency[26] shows that attitudes about technology transfer from the United States are changing, with 36 percent of the firms surveyed, indicating that no technology transfer would occur, 36 percent expecting technology to be both exported and imported, and the balance almost equally divided between solely importing and solely exporting technology.

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[24] Ideally, royalties, which include payments for copyrights to books, musical recordings, trademarks, and franchises, but not necessarily technical know-how of industrial processes, should be deducted from the sum of royalty and licensing fees. However, the data are not available separately for affiliated parties. Patent licensing fees represent about 70 percent of total licensing and royalty fees paid between unaffiliated parties, and thus, the values discussed in this section are overstated to the extent that they include royalty payments not related to technology transactions. Moreover, how well patents measure outputs of technology and how well licenses measure payments for this know-how are problematic. These issues are extensively discussed in the literature on the economics R&D and technical change. For a recent discussion on the limitations of these data, see Mary Ellen Mogee, "Toward International Licensing by U.S.-Based Firms: Trends and Implications," *Technology Transfer*, Spring 1991, pp. 14-19.

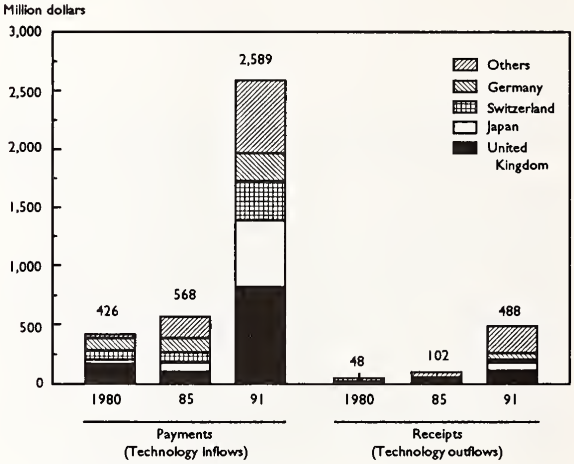
Overall, there is little evidence that foreign acquisitions of small, high-technology U.S. firms have resulted in large scale technology transfer abroad. Views about

Table 6-9
Payments and Receipts of Royalties and License Fees between U.S. Affiliates and Foreign Parents (millions of dollars)

Year	Payments	Receipts	Net payments
1980	426	48	378
1981	487	74	413
1982	394	69	325
1983	465	60	405
1984	665	68	597
1985	568	102	466
1986	799	180	619
1987	1,141	229	912
1988	1,285	263	1,022
1989	1,632	349	1,283
1990	1,931	376	1,555
1991	2,674	514	2,160

Notes: Inflows are payments of royalties and license fees by U.S. affiliates to their foreign parents.
Outflows are receipts of royalties and license fees by U.S. affiliates from their parent firms.
Receipts and Payments are before deduction of withholding tax.
Source: Bureau of Economic Analysis, *Survey of Current Business*, various issues.

Figure 6-7
Royalties & License Fee Payments and Receipts, by Country of UBO, 1980-91



Source: Bureau of Economic Analysis.

Table 6-10
Royalties and License Fees: Payments to, and Receipts from, Foreign Parents by U.S. Affiliates in All Industries and in High-Technology Industries, 1983-1991 (Millions of dollars)

	1983		1987		1988	
	Payments	Receipts	Payments	Receipts	Payments	Receipts
Manufacturing	234	33	755	94	812	109
Of which: High-technology ...	98	4*	371	11*	443	18*
Services	14	2	41	31	35	41
Of which: High-technology ...	0	0	3*	8*	29	6*

	1989		1990		1991	
	Payments	Receipts	Payments	Receipts	Payments	Receipts
Manufacturing	1098	155	1298	160	1784	160
Of which: High-technology ...	593	29*	740	74*	1005*	81
Services	56	78	113	73	136	107
Of which: High-technology ...	22	2*	60	2*	77	6*

* Number understated because industry data have been suppressed to maintain confidentiality of company information. High-technology industry details in tables in Statistical Appendix A.
Source: Bureau of Economic Analysis, unpublished data.

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[25] *Op. cit.*, Christelow, 1989.

[26] *Survey Report on Research Activities in Private Enterprises*, Science and Technology Agency (Tokyo: February 1992), translated in *Science and Technology, Japan*, JPRS-JST-92-021, August 14, 1992.

technology transfer vary among U.S. industries. There is a consensus that affiliates of Japanese firms are bringing advanced process technology into the United States in the steel and auto industries.[27] In contrast, where Japan is far behind such as in computer software and biotechnology, some studies suggest significant technology may have been transferred from the United States to Japan through affiliates as well as by other types of strategic alliances.[28] One study of Japanese investments into the United States shows that Japanese firms tend to establish new plants in R&D-intensive industries, but that joint ventures are preferred if U.S. technology is sought.[29] A recent study of foreign investment in Silicon Valley indicates that acquisition does not necessarily mean that technology can be expected to flow overseas:

> The critical agents for the diffusion of these technologies (managers and employees of the small firm) remain in the United States, where they move to other firms, present the results of their research to domestic audiences, and otherwise act to disseminate much of the technology domestically.[30]

Affiliates and Critical Technologies Developments

A systematic, quantitative analysis of foreign direct investment in U.S. critical technologies is not possible at this time, since data at the individual product level required to examine even roughly foreign investment in critical technologies are not available. Moreover, no data system captures critical process technologies used to produce goods and services. Case studies can provide insights into foreign firms' application, development, use, and transfer of critical technologies, although conclusions are not generalizable to all critical technologies. The few case studies available include: the Department of Commerce's Bureau of Export Administration case studies on two processing equipment technologies (the U.S. robotics industry and the semiconductor wafer processing equipment industry);[31] the National Research Council studies on Japanese investment in the biotechnology and semiconductors industries;[32] and the analysis by the National Advisory Committee on Semiconductors of foreign investment in the semiconductor equipment and materials industries.[33]

These studies suggest that in narrowly defined segments of an industry, firms have used foreign investment as only part of their strategy to gain world market shares and to obtain new products and technologies. Indeed, the studies have included all forms of strategic alliances -- marketing and sales agreements, second-sourcing agreements, licensing agreements, and joint ventures[34] -- along with acquisition and establishment of affiliates in the United States. For example, the Commerce study of the robotics industry indicates that Japanese firms have relied mostly on these types of international agreements and alliances, rather than parent-subsidiary relations to make large gains in the world robotics market.[35]

In the biotechnology industry, a Commerce study, included in last year's FDI report, concluded that foreign investment provided the infusion of financial resources needed for companies to survive, retain jobs, and increase investment in plant and equipment and R&D to develop new products. The study also reported that European firms, mostly from France, Switzerland, Italy, and Sweden, have made 36 of the 40 majority-owned U.S. acquisitions by foreign firms; and that European firms accounted for 26 of minority-equity purchases, and Japanese firms, for 9 minority investments in the 1980s.[36] The National Research Council study of alliances in the biotechnology industry, however, cautions that in the long term, linkages between Japanese-owned U.S. affiliates and their parent firms -- including R&D collaboration between firms and between firms and universities -- could make the affiliates strong competitors with U.S.-owned firms, unless U.S. firms and universities in these linkages develop strategies to ensure they will accrue benefits from them.[37]

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[27] Richard Florida and Martin Kenney, "Restructuring in Place: Japanese Investment, Production, Organization and the Geography of Steel," *Economic Geography*, forthcoming. Also see Martin Kenney and Richard Florida, "The Japanese Transplants: Production Organization and Regional Development," *Journal of the American Planning Association*, Vol. 58, No. 1, Winter 1992.

[28] See *op. cit.*, National Research Council, *..Biotechnology*, 1992.

[29] Bruce Kogut and Sea Jin Chang, "Technological Capabilities and Japanese Foreign Direct Investment in the United States," *The Review of Economics and Statistics*, Vol. 73, No. 3 (August 1991), pp. 401-413.

[30] David J. Teece, "Foreign Investment and Technological Development in Silicon Valley," in D. McFetridge, ed., *Foreign Investment, Technology and Economic Growth* (University of Calgary Press, 1991) pp. 215-235.

[31] U.S. Department of Commerce, Bureau of Export Administration, *National Security Assessment of the U.S. Robotics Industry* (March 1991); *National Security Assessment of the U.S. Semiconductor Wafer Processing Industry* (April 1991). A study of optoelectronics is scheduled for completion in the near future.

[32] National Research Council, Office of Japan Affairs, *U.S.-Japan Technology Linkages in Biotechnology; U.S.-Japan Strategic Alliances in the Semiconductor Industry*. (Washington, D.C.: National Academy Press, 1992).

[33] National Advisory Committee on Semiconductors, *Semiconductors: A Strategic Industry at Risk*, November 1989; *Semiconductors: Toward A National Semiconductor Strategy*, February 1991 (Washington, D.C.: U.S. Government Printing Office).

[34] While a joint venture can result in the formation of a subsidiary of two existing firms of the same or different nationalities, most OECD countries lack a precise or legal definition of a joint venture and any reporting requirements when a joint venture is formed. BEA includes in the FDI data as a foreign-owned firm any joint venture established by a foreign company in the United States, but does not distinguish between a joint venture and other investments. The International Trade Administration, U.S. Department of Commerce, provides data on foreign direct investment that differentiate joint ventures from other investments. However, the ITA data base is not a complete universe, and does not provide investment values for all transactions. Thus, available quantitative data on all joint venture agreements are incomplete, and are not comparable to each other.

[35] *Op. cit.*, U.S. Department of Commerce, p. 78.

[36] U.S. Department of Commerce, Economics and Statistics Administration, *Foreign Direct Investment in the United States* (Washington, D.C.: U.S. Government Printing Office, August 1991), p. 73.

A National Research Council Semiconductor Working Group, which studied Japanese acquisitions and investments in semiconductors, semiconductor equipment and materials, could draw no firm conclusions about the advantages or disadvantages of foreign investment. It found that the costs incurred are long-term and difficult to quantify. However, it did find that the benefits are short-term, immediate, and readily measured. Although the predominant flow of technology since World War II has been to Japan from the United States and Europe, U.S. participants currently appear to be receiving more inflows of technology from Japan than in the past. The National Advisory Committee on Semiconductors, on the other hand, points out that the financial weakness of U.S. firms in key segments of the semiconductor industry, such as in materials and semiconductor equipment, could make them prime targets for acquisitions and technology transfer overseas, and could lead to further erosion of the U.S.-owned industry infrastructure.[38]

The detailed data from the BEA-Census Data Link Project show that, in 1987, foreign-owned producers' shares of total U.S. sales in three industries that produce products embodying critical technologies are not large: computers (SIC 3571), 7.4 percent; semiconductors and related devices (SIC 3674), 14.2 percent; aircraft and parts (SIC 372), 1.7 percent; and in magnetic and optical recording media (SIC 3695), the share was relatively high at 25.8 percent.[39]

Future Research

The results presented in this chapter do not give conclusive answers to many detailed questions, including the growth in existing high-technology affiliates versus acquisitions and new establishments, and U.S. affiliates' role in selected high-technology niche markets. Existing data also do not allow identification of corporate linkages (e.g., keiretsu relationships) among foreign parents. Another gap lies in measuring the size of acquired firms as an indicator of motive to access U.S. technology. Some observers have concluded that the size of the affiliate, at least in the electronics industry, indicates why the foreign firm is motivated to acquire the U.S. firm and its technology, especially if the high-technology affiliate is small, and shows little or no profits; i.e., the U.S. firm is in need of capital infusion and has had difficulty in obtaining credit or equity.[40] Finally, differences in Japanese company strategies versus European or Canadian firms' strategies to access U.S. technology remain unaddressed.

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[37] *Op. cit.*, National Research Council, 1992.

[38] *Op. cit.*, National Research Council, pp. 52-53, 74-83; *op. cit.*, National Advisory Committee on Semiconductors, 1991.

[39] Examples of the critical technologies (from Table 6-2) embodied in the products of these four industries are: high-performance computing and networking, electronic and photonic materials, microelectronics and optoelectronics in computers and semiconductors; data storage and peripherals in magnetic and optical recording media; and aeronautics in aircraft and parts.

[40] See Phyllis A Genther and Donald Dalton, *Japanese-Affiliated Electronics Companies: Implications for U.S. Technology Development* (Economics and Statistics Administration and Technology Administration, U.S. Department of Commerce, NTIS, March, 1991) for one point of view.

7

U.S. Foreign Trade in Merchandise and Services by Foreign-Owned U.S. Firms

*by Lester A. Davis**

U.S. affiliates of foreign-owned firms (hereafter U.S. affiliates) continue to have an increasing role in U.S. foreign trade in merchandise and services. A substantial proportion of the U.S. affiliates pursue a strategy quite different from that by most U.S.-owned firms. The resulting differences in trade performance are the subject of this chapter.

The overall U.S. trade deficit peaked in 1987 and then greatly improved after the very large 1985-87 depreciation of the dollar. U.S. affiliates as a group accounted for the largest share of the pre-1987 growth in the U.S. trade deficit, but for virtually none of its overall large reduction between 1987 and 1990, while U.S.-owned firms accounted for almost all of that reduction.

Several key factors account for the rapid growth of affiliate trade since 1986 and their disparate trade performance compared with U.S.-owned firms:

- The trade of existing affiliates expanded rapidly;
- The number of new foreign-owned firms also grew rapidly, with acquisition of new affiliates each year accounting for a small but important share of the affiliates' total trade growth;
- A large share of the affiliates are wholesalers whose function is mainly to distribute foreign-made products in the U.S. market; and
- Foreign-owned firms tended to be highly dependent on imports from their parents for goods for resale and for inputs to their production facilities.

In contrast to the much larger growth in the affiliates' imports, the growth in their exports accounted for a small share of the growth in the U.S. economy and jobs between 1986 and 1990 -- supporting an estimated 1.7 million U.S. jobs in 1990.

At least since 1980, Japanese-owned U.S. firms have been a major factor in the overall trade performance of U.S. affiliates. They have by far the largest national shares of all U.S. affiliates' total exports and imports, and they accounted for well over one-half of the growth in the U.S. affiliates' overall U.S. trade deficit in the 1980s. To a large degree, this reflects Japanese firms' heavy investment in U.S. wholesaling affiliates, such as in autos and electronic consumer goods.

Trends in U.S. Affiliate Merchandise Trade

U.S. affiliate trade reflects the growing internationalization of the U.S. economy and its increased economic interdependence with the rest of the world. By 1990 (the latest year for U.S. affiliate trade), over 75 percent of total U.S. merchandise trade involved foreign-owned U.S. firms or U.S.-owned multinational firms, and about 40 percent of the total involved related parties at both ends of the trade.[1] While this trend was first led in earlier years by U.S.-owned multinational corporations, more recently it has been strongly paced by foreign-owned firms.

While dropping slightly in the early 1980s, the U.S. affiliates' share of the overall U.S. trade deficit increased over the entire decade. In contrast, the U.S.-owned firms' share decreased over the decade. The U.S. affiliate share of the total U.S. trade deficit rose from a 39.7 percent low in 1984 to 88.0 percent in 1990. Even when the overall U.S. trade deficit began to shrink sharply after 1987, the U.S. affiliate share of the trade deficit continued to rise, suggesting that such underlying factors as exchange rate changes did not have a proportionate effect on U.S.

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[1] Because of differences in data sources, 1990 is the latest U.S. affiliate data year available at the time of preparing this report on FDI in the United States. U.S. affiliate trade data published by BEA lag by one year or more comparable data on overall U.S. trade data published by the Census Bureau. U.S. affiliate trade data are obtained by annual BEA survey questionnaires, while those on overall trade are reported monthly by the Census Bureau with only about six weeks lag behind the end of the reported month. Thus, these latest U.S. affiliate trade data do not reflect the large continued overall improvement in U.S. trade performance that occurred between 1990 and 1991.

affiliate trade. This bias was significantly due to the continued large post-1987 expansion of the existing affiliates, and the rise in the number of new U.S. affiliates, including the shift in existing firms from U.S.-owned to foreign-owned, their composition in terms of country of UBO (ultimate beneficial owner), and industry of affiliate.

Between 1980 and 1987, the overall merchandise trade deficit of U.S. affiliate firms increased sharply to a record $95.4 billion, and remained at high but slightly lower levels in 1988 and 1989, and at $89.5 billion in 1990. This rising deficit mainly reflects the much more rapid increase in imports than exports (Figure 7-1). Moreover, the U.S. affiliate performance markedly differs from that of U.S.-owned firms, whose trade deficits peaked at $64.4 billion in 1984, and thereafter decreased sharply and steadily, reaching $12.2 billion in 1990.

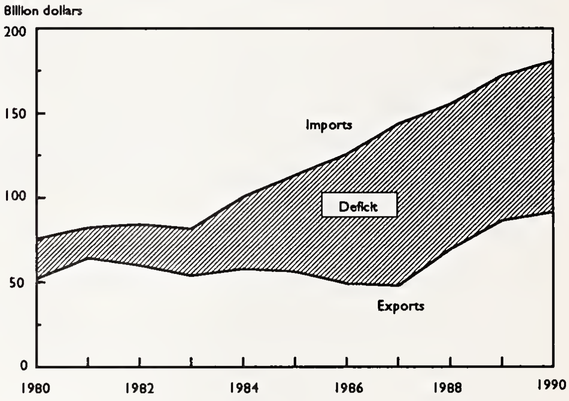
U.S. affiliate imports grew rapidly and steadily throughout most of the 1980s, more than doubling in value from $75.8 billion in 1980 to $180.7 billion in 1990, reflecting no apparent significant restrictive impact from the 1985-86 dollar depreciation. In contrast, the U.S. affiliates' exports, persistently much smaller than imports, rose by only three-fourths more than their 1980 level by 1990. Moreover, unlike U.S. affiliates' import growth, their export growth demonstrated a strong apparent sensitivity to a loss of price competitiveness in the first half of the decade and then to its improvement since 1987. U.S. affiliate exports, amounting to $52.2 billion in 1980, rose in 1981, declined irregularly but sharply to a low of $48.1 billion in 1987, and nearly doubled over the next three years, reaching $91.1 billion in 1990.

Four key factors contributed to the rapid rise in the U.S. affiliate trade deficit during the 1980s. First, existing affiliates rapidly expanded their operations. Second, U.S. affiliate trade is conducted primarily by wholesaling firms -- most of whom are basically importers rather than other types of businesses. Third, they demonstrated a strong dependence on their parents for imports. Fourth, the largest share of new U.S. affiliates were acquisitions of previously existing U.S.-owned firms that on average had a higher average import propensity than other firms. The shift of these firms to foreign ownership had the effect of rapidly reducing the overall trade-deficit of U.S. firms that remained U.S.-owned. In addition, these new foreign-owned firms either already had or soon developed strong trade links to their foreign parent firms.

The sharp 1985-87 depreciation of the dollar, generally considered a major positive factor that contributed to the overall post-1985 U.S. export growth, apparently did spur U.S. affiliate exports between 1985 and 1990, but proportionately less than exports by U.S.-owned firms. In contrast, the affiliates' imports rose substantially faster than imports by U.S.-owned firms. As a result, between 1985 and 1990, the U.S. affiliates' trade deficit rose sharply, while the U.S.-owned firms' deficit fell by one-fifth (Figure 7-2).

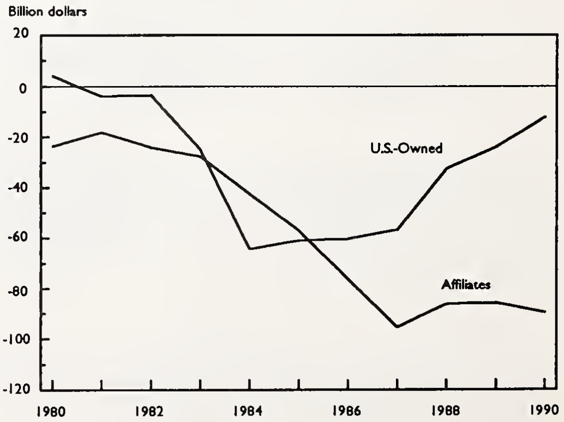
There is public debate over how to interpret these figures. Graham and Krugman conclude that available data do indeed suggest that "foreign firms have a substantially stronger tendency to source abroad than do domestic firms".[2] James Orr points out, however, that even if the initial propensity of foreign-owned firms is to import more of their inputs than domestically-owned firms, the tendency toward import substitution tends to decline over time. However, because of lags involved in this tendency, he believes that several years will be required before the U.S. trade flows of foreign-owned firms will improve.[3]

Figure 7-1
U.S. Affiliate Merchandise Trade, 1980-90



Source: Bureau of Economic Analyusis.

Figure 7-2
U.S. Affiliates' & U.S.-Owned Firms' Merchandise Trade Balances, 1980-90



Source: Bureau of Economic Analysis.

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[2] Edward M. Graham and Paul R. Krugman, *Foreign Direct Investment in the United States*. Second edition. Washington, D.C.: Institute for International Investment, 1991, p. 64.

[3] James Orr, "The Trade Balance Effects of Foreign Direct Investment in U.S. Manufacturing," in *Quarterly Review*. Summer 1991. Federal Reserve Board of New York, p. 63. See also Office of Technology Assessment, Congress of the United States. October 1991. *Competing Economies: America, Europe and the Pacific Rim*. Washington, D.C.: U.S. Government Printing Office, p. 106.

New Versus Existing U.S. Affiliates' Trade

The BEA data on U.S. affiliates' merchandise trade greatly help understand how major developments in their trade relate to the overall U.S. trade performance. For instance, these data show that rapidly rising imports by U.S. affiliates accounted for a growing share of total U.S. imports. Nevertheless, there are limits to the ability of these regularly published data to show what is actually happening. They do not explain that the rapid growth in recorded value of imports by U.S. affiliates is at least significantly due to the rapid annual rise in the number of U.S. affiliates.

Irregular, sometimes large shares of the annual increases in U.S. affiliate exports and imports are accounted for by foreign acquisition of existing U.S.-owned firms rather than the expansion of trade by existing U.S. affiliates; that is, by merely changing their classification from domestic-owned to foreign-owned. While BEA publishes data on sales and employment by foreign-owned firms acquired or established each year, these data do not identify the extent that total U.S. affiliate trade growth each year is attributable to new each year versus existing affiliates.

In order to estimate the share of U.S. trade affected by the shift in U.S. firm ownership between the two classifications, BEA has provided unpublished data on the trade of U.S. affiliates that are "new" each year. These data are based on firms' responses to BEA's annual FDIUS survey.[4] These new data are aggregations of unedited and unpublished trade data reported by firms responding as "new" in the BEA annual surveys. Moreover, these data are not a precise measure of the annual change in the level of trade of new U.S. affiliates in each year. These data should be regarded as minimum shares of total U.S. trade that are shifted from existing U.S.-owned to new foreign-owned affiliates because they do not include the sizeable share of total U.S. trade by U.S-owned firms acquired each year by existing foreign-owned affiliates already located in the United States that are consolidated into the reports on affiliates existing each year. Nonetheless, the data provide a useful indicator of the direction and magnitude of the annual change in the trade of the new versus existing U.S. affiliates.

While the "new" category technically includes trade of newly established U.S. affiliates, such as "greenfield" plants, as well as new acquisitions, "new" greenfield U.S. affiliates probably were unlikely to have undertaken a significant amount of trade in their first year. As a result, for the purpose of these estimates, all trade by "new" U.S. affiliates is assumed to be attributable to acquired companies that are not consolidated into existing affiliates.

These estimates are based on data available on a consistent basis beginning with 1987. They indicate that, in 1987, exports by newly acquired U.S. affiliates rose while those by already existing U.S. affiliates dropped. Thereafter, in each of the years between 1987 and 1990, exports by "new" affiliates accounted for sharply rising shares of the annual increases in total exports supplied by all U.S. affiliates, up from 5 percent in 1988 to 41 percent in 1990. A similar large irregularly rising share of total U.S. affiliate imports each year was accounted for by "new" U.S. affiliates, up from 13 percent in 1987 to 38 percent in 1990 (Figures 7-3A&B). Although these estimated shares show that a continued rising number of foreign acquisitions of U.S.-owned firms accounted for at least a large and rising share of the exports and imports each year between 1987 and 1990, these estimated shares were not so large that they constituted a major proportion of the total export and import growth by U.S. affiliates.

Merchandise Trade, by Industry of Product

The only data collected by BEA on U.S. affiliate trade on a product basis are very aggregated and are only for survey benchmark years, the latest being 1987. A new benchmark survey covering 1992 is being conducted during 1993. No time series trade data are collected on an industry of sales basis, although data are reported on that basis for employment and sales. The principal basis used is trade by industry of affiliate.[5]

In 1987, trade data reported by product indicate that two of the eleven product categories accounted for nearly 60 percent of the imports by U.S. affiliates. First was road motor vehicles and parts ($47.4 billion) -- accounting for 33.0 percent of total U.S. affiliate imports (Figures 7-4A&B). The second largest import product category was machinery (including, for example, computers, electronic components, and machine tools) at 24.9 percent ($35.8 billion).

In 1987, wholesalers dominated U.S. affiliate importing. Wholesalers were the principal importers in most of the major import categories.

In 1987 four major product categories accounted for nearly two-thirds of U.S. affiliates' $48.1 billion in merchandise exports -- led by food's 20.5 percent ($9.8 billion). A close second was chemicals' 16.7 percent ($8.1 billion) followed by machinery's 15.5 percent ($7.5 billion) and crude materials' 12.7 percent ($6.1 billion).

As in the case of imports, wholesalers are the dominant exporters. In 1987, on a product basis, manufacturers and other producers were less directly involved in foreign trade than were wholesalers; manufacturers exported more than wholesalers in only three major product categories -- beverages and tobacco, chemicals and ma-

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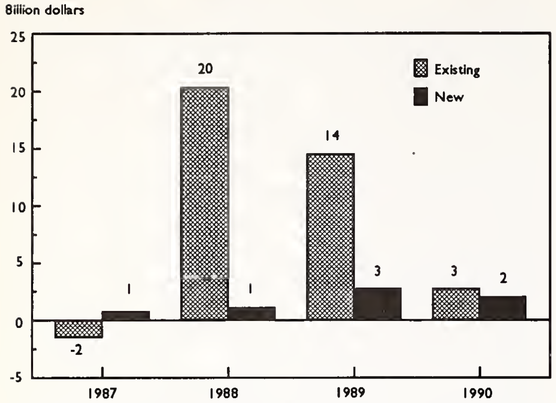
[4] Question 16 in the BEA annual FDIUS survey, beginning with data for 1987, asks "Did the U.S. business enterprise become a U.S. affiliate during its [current] fiscal year?"

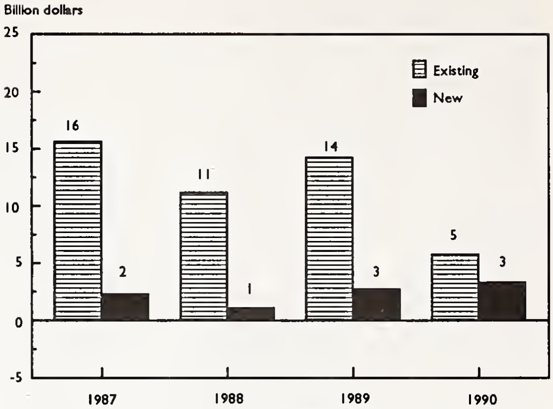
[5] See the glossary in the appendix of this report for definitions of the different bases of industry data.

Figure 7-3A
Estimated Annual Change in Merchandise Exports of New & Existing U.S. Affiliates, 1987-90*



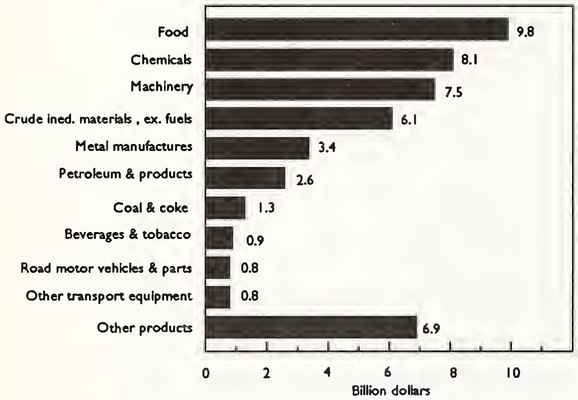
Source: Unpublished Bureau of Economic Analysis data.
*Exports by "new" affiliates in the year shown; exports by "existing" affiliates is the change in total affiliate exports between years minus the "new" affiliate exports in that year. Thus, "new" is understated, and "existing" is overstated.

Figure 7-3B
Estimated Annual Change in Merchandise Imports of New & Existing U.S. Affiliates, 1987-90*



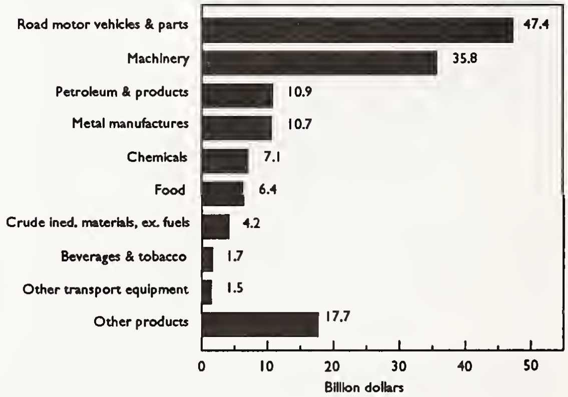
Source: Unpublished Bureau of Economic Analysis data.
*Imports by "new" affiliates in the year shown; imports by "existing" affiliates is the change in total affiliate imports between years minus the "new" affiliate imports in that year. Thus, "new" is understated, and "existing" is overstated.

Figure 7-4A
U.S. Affiliate Merchandise Exports, by Product, in 1987



Source: Bureau of Economic Analysis.

Figure 7-4B
U.S. Affiliate Merchandise Imports, by Product, in 1987



Source: Bureau of Economic Analysis.

chinery, and in machinery they were only marginally ahead of wholesalers.

Merchandise Trade, by Industry of Affiliate

The U.S. affiliates generally import merchandise either for use as inputs in their own production processes or for resale (largely wholesale). Analysis of the U.S. affiliate shares of these two uses of imports would significantly clarify their separate impacts on U.S. trade and industries. However, this analytical approach is not possible, because the principal BEA basis for disaggregating their merchandise trade data is in terms of "industry of affiliate". Thus, the imports by manufacturing affiliates can not be assumed to be solely used as production inputs, nor can imports by wholesaling affiliates be assumed sold as finished products and not as inputs to manufacturing operations of affiliates classified as wholesalers. In addition, it is not possible to determine the U.S. affiliates' share of total U.S. trade by either U.S. wholesalers or manufacturers. While BEA affiliate trade data do distinguish between trade by manufacturers and wholesalers by industry of affiliate, separate Census Bureau trade data on overall U.S. trade that combines trade by both U.S.- and foreign-owned firms are not available on the basis of industry of affiliate over time.

overall U.S. trade that combines trade by both U.S.- and foreign-owned firms are not available on the basis of industry of affiliate over time.

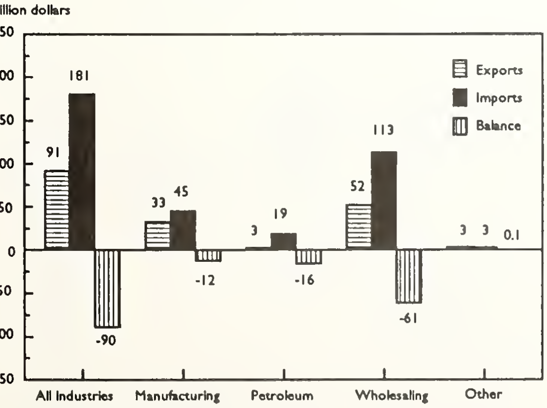
Merchandise Trade Balances. The merchandise trade balance of U.S. affiliates in the three largest of four industry sectors recorded by industry of affiliate -- petroleum and coal, manufacturing and wholesaling -- has been negative for virtually all of the years since at least 1980. Wholesaling consistently incurred by far the largest trade deficit. In 1990, U.S. affiliates in the wholesaling industry had a $61.4 billion trade deficit -- 69 percent of the total U.S. affiliate trade deficit (Figure 7-5). The industry sectors that account for most of total U.S. affiliate imports are led by wholesaling, manufacturing, and petroleum and coal (Table 7-1). In 1990, U.S. affiliates that are primarily wholesalers accounted for nearly two-thirds of the U.S. affiliates' total merchandise imports. The shares of the merchandise exports accounted for by U.S. affiliates in wholesaling (57.1 percent) were only slightly smaller than for imports.

The large contribution of wholesaling firms to the U.S. affiliates' trade deficit may not be surprising, since U.S. affiliates in wholesaling have persistently accounted for the largest share of total affiliate trade, and they are primarily in the business of importing. However, the trade deficit of U.S. affiliates principally engaged in wholesaling decreased from its 1987 peak of $78.1 billion to $61.4 billion in 1990, even though the number of U.S. wholesaling affiliates continued to rise. However, the potential 1987-90 improvement in the overall affiliates' trade deficit from this three-year decline in wholesalers' deficit was largely offset by deficit increases by petroleum and manufacturing affiliates.

Although the overall U.S. affiliate trade balance was in deficit in 1990, the trade balances of several industries were in surplus. Notable trade surpluses included the trade of manufacturers of industrial chemicals ($3.3 billion), of instruments ($267 million), and of transport equipment (except motor vehicles and equipment) ($245 million), and wholesalers of farm products raw materials ($13.1 billion). The largest individual industry deficits include those of U.S. affiliates in the petroleum industry ($15.9 billion), manufacturers of electric and electronic equipment ($4.0 billion), and wholesalers of motor vehicles and equipment ($40.8 billion).

Figure 7-5

U.S. Affiliate Merchandise Trade, by Industry of Affiliate, in 1990



Source: Bureau of Economic Analysis.

Table 7-1

Shares of U.S. Affiliate Merchandise Trade, by Major Industry of Affiliate, in 1990 (Values in billion dollars)

Industry	Exports	Imports	Balance*
Total value	$91.1	$180.7	$-89.5
Shares:			
Petroleum	3.1%	10.4%	-17.8%
Manufacturing	35.9%	25.0%	-13.8%
Wholesaling	57.1%	62.8%	-68.5%
Other industries	3.8%	1.8%	+0.1%

*Negative sign reflects an affiliate trade deficit share of the overall U.S. trade deficit.

Source: Bureau of Economic Analysis.

By and large, the industries with deficits in 1980 had even larger deficits -- some far larger -- in 1990. For example, the trade deficit of U.S. affiliates manufacturing electrical and electronic equipment rose from $572 million in 1980 to $5.7 billion in 1990, and the deficits of motor vehicle and equipment wholesalers rose from $15.5 billion in 1980 to $40.8 billion in 1990. Moreover, some of the U.S. affiliate industries that had trade surpluses in 1980 had sizeable deficits in 1990, such as drugs and medicine manufacturers and producers of transportation equipment (including motor vehicles and equipment). Contrary to this general trend, the trade surpluses of U.S. affiliate manufacturers of industrial chemicals rose -- up from $270 million to $3.3 billion, and the trade balance of U.S. affiliates manufacturers of instruments shifted from a sizeable deficit to a sizable surplus. However, the trade surplus of wholesalers of farm products and raw materials decreased slightly from $14.5 billion in 1980 to $13.1 billion in 1990.

Merchandise Imports. In 1990, wholesalers accounted for the great bulk of the imports -- 62.8 percent ($113.4 billion), led by motor vehicle and equipment wholesalers (25.3 percent, $45.7 billion), followed by wholesalers of electrical goods metals, and by minerals wholesalers (excluding petroleum). Imports by manufacturing affiliates were led by electrical and electronic goods ($9.1 billion), chemicals, and non-electric machinery.

Manufacturing U.S. affiliates have been steadily increasing their share of U.S. affiliate imports over the past decade. Although, in 1990, total U.S. affiliate imports continued to be dominated by wholesalers, manufacturers have sharply increased their share from 13.7 percent of the total in 1980 to 17.8 percent in 1987 and to 25.0 percent in 1990. Between 1980 and 1990, the wholesalers' share of U.S. affiliate imports decreased sizably from 71.3 percent to 62.8 percent. Even the import share of motor vehicle and equipment wholesalers, after rising from 23.8 percent in 1980 to 34.9 percent in 1987, dropped to 25.3 percent in 1990.

Merchandise Exports. The $4.1 billion decline in U.S. affiliates' total exports between 1980 and 1987 was more than accounted for by the one-fourth ($-11.5 billion) drop in exports by wholesalers. This export loss was partly offset by a 71 percent ($+6.4 billion) rise in exports by U.S. affiliate manufacturers. In contrast, between 1987 and 1990, the near doubling in total U.S. affiliate exports (up $43.0 billion), was led by a proportionately greater (111 percent) rise in manufacturers' exports (up $17.2 billion) and a strong 79 percent rise in wholesalers' exports (up $22.9 billion).

High-Technology Sector Trade. A large share of the increase in the U.S. affiliates' exports and imports appears to be in high-technology products, based on an analysis of the trade of U.S. manufacturing affiliates. A precise analytical conclusion, however, is not possible because data on high-technology products exported and imported by all U.S. affiliates are not available. Moreover, data for high-tech trade by industry of affiliate are incomplete. Data on high-tech trade by wholesalers are not available, and data for high-tech manufacturers on a detailed industry basis are available only beginning with 1987.[6]

Both exports and imports of U.S. affiliate high-tech manufacturing industries nearly doubled over the short period 1987-90. The resulting trade balances have varied irregularly from a small 1987 deficit of $1.7 billion, to surpluses of $1.2 billion surplus in 1988 and $489 million in 1989, to a large $4.1 billion deficit in 1990.

A larger than proportionate share of the 1987-90 rise in both imports and exports of the U.S. affiliates in manufacturing was accounted for by those firms in high-tech industries -- slightly over one-half of the rise in their imports and slightly under one-half of their exports. Moreover, during this period, U.S. manufacturing affiliates accounted for an roughly 60 percent of the rise in total U.S. imports of high-tech products, but only about 15 percent of the rise in total U.S. high-tech exports.[7]

The trade of both U.S. affiliate manufacturers of industrial chemicals, as well as those manufacturing instruments and related goods, were in surplus for virtually the entire 1987-90 period. In 1990, the large trade surplus of U.S. affiliates manufacturing industrial chemicals rose to a record $3.3 billion in both 1989 and 1990, while in 1990 affiliates manufacturing instruments produced a $267 million surplus and those producing transport equipment (other than motor vehicles and related equipment) produced a $245 million surplus. However, trade was consistently in deficit for almost all other U.S. affiliate high-tech manufacturing industries throughout 1987-90, producing in 1990 a combined $7.7 billion trade deficit, led by a major $3.2 billion deficit by audio, video, and communications equipment manufacturing.

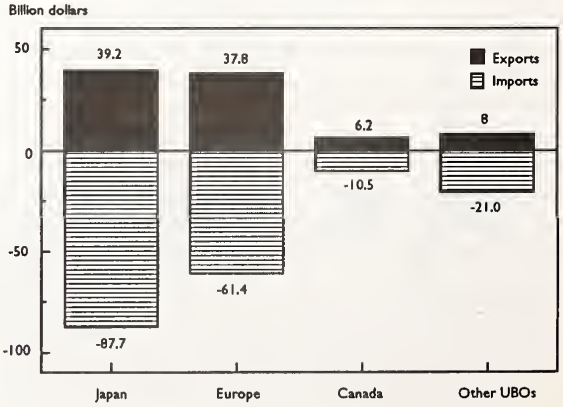
Merchandise Trade, by Country of UBO

There are two ways to examine nationality as it relates to U.S. affiliate trade -- trade by country of ultimate beneficial owner of affiliates (UBO), and trade by geographic destination or origin of those shipments. The following discussion focuses on trade in terms of country of UBO to show the extent that nation of ownership affects U.S. affiliate trade performance. It also roughly corresponds in orders of magnitude and relative importance with U.S. affiliate trade reported in terms of destination and origin for major trading countries and groups, such as Canada, Japan and Europe as a whole. Owners from these three countries or country groups have accounted for the great bulk of U.S. affiliate trade throughout the 1980s (88 percent in 1990) (Figure 7-6).

Most of the $72 billion rise in their total U.S.

Figure 7-6

U.S Affiliate Merchandise Trade, by Country of Ownership, in 1990



Source: Bureau of Economic Analysis.

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[6] The seven manufacturing industries that roughly equate to high-technology industries are: industrial chemicals; drugs; computers and office equipment; audio, video & communications equipment; electronic components & accessories; other transport equipment (which includes aircraft & parts), and instruments & related products. These are the same high-tech product industries referred to in Chapter 6 on U.S. affiliates and technology.

[7] These comparisons are based on affiliate trade data on an industry of affiliate and total U.S. trade data on an industry of product basis, and therefore are not exactly comparable; however, they provide an approximation of the impact of high-technology affiliate trade on total U.S. trade.

merchandise trade deficit between 1980 and 1987 and the $6 billion deficit decrease between 1987 and 1990 were accounted for by European-owned and Japanese-owned affiliates (Figure 7-7). However, during 1987-90 while the Japanese and European deficits decreased slightly, the deficit of Canadian-owned affiliates continued slowly but steadily to increase, rising by $1.2 billion over the period, and the average deficit for "all other" affiliates nearly doubled, rising from $7.5 billion to $13.0 billion.

The reduction in the deficits of Japanese and European affiliates appear to have been due more to a surge in their exports than to any slowdown in their imports. The rise in the deficit of Canadian affiliates was a continuation of the earlier slow deficit growth. The deficit increase of all other affiliates was due to a surge in their imports that outpaced their export growth rate.

An alternative comparison of U.S.-owned and foreign-owned firms' recent change in trade over time by country of destination and of origin of the merchandise is not possible, as such data for the affiliates are available only for benchmark years, the most recent being for 1987. Thus, it is not possible to determine from available data, for example, how much of the growth in Japanese-owned affiliates' trade is with Japan versus other countries, nor is it possible to determine exactly how much of the trade with Japan is by Japanese-owned affiliates.

Japanese-Owned U.S. Affiliate Trade. Over the 1980s, Japanese-owned firms dominated overall U.S. affiliate merchandise trade--accounting in 1990 for 48.5 percent of all affiliates' imports and 43.0 percent of their exports. They also accounted for nearly one-half of the total 1980-90 growth in the U.S. affiliate trade deficit. Indeed, the 1990 trade deficit of Japanese-owned affiliates was nearly one-half of the total U.S. merchandise trade deficit. Between 1980 and 1990, Japanese-owned U.S. affiliates also accounted for well over one-half of the growth in total U.S. affiliate imports, exports, and deficit growth. In fact, Japanese-owned affiliates' merchandise imports grew nearly twice the pace of their exports, and, by comparison, more than twice the pace of European-owned affiliates' imports.

The Japanese-owned U.S. affiliates have accounted for a rising share of growing total U.S. affiliate trade during most of the 1980s -- rising from 36.5 percent of total U.S. affiliate merchandise imports in 1980 to a peak of 51.3 percent in 1985 and then edging down slightly to 48.5 percent in 1990 (Figure 7-8).

The Japanese-owned affiliates' merchandise imports in 1990 were twice as large in value as their exports. This size difference rose sharply over the decade, reaching $48.6 billion in 1990, and exceeding the total U.S. trade deficit with Japan that year (Figure 7-9). However, it should be noted that not all of the Japanese-owned affiliate trade originates in, or is destined to, Japan. As recently as 1987 (the latest data year) 23 percent of Japanese-owned affiliate exports was shipped to other countries and 7 percent was imported from other countries. Thus, while the parents of these U.S. affiliates are located in Japan, many affiliates operate as components of a multinational, not just a binational, corporate network. Several of these U.S. affiliates are part of very large Japanese world-wide trading companies, the "*sogo shosha*." For example, according to Glickman and Woodward, "Mitsubishi International accounts for $9 billion of annual trade from the United States."[8]

Wholesalers (including those in the importing business such as the very large Japanese trading companies) accounted for most of imports and exports by Japanese-

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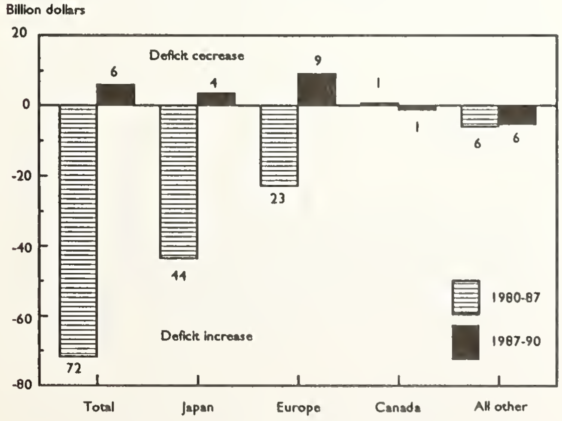
[8] These comparisons reflect affiliate trade data on an industry of affiliate and total U.S. trade data on an industry of product basis. See page 57 in Norman J. Glickman and Douglas P. Woodward. *The New Competitors*. Basic Books, 1990.

Figure 7-7

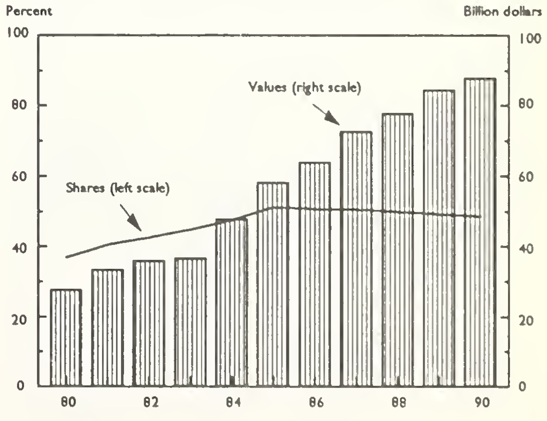
Changes in U.S. Affilitate Merchandise Trade Deficit, by Country of UBO, 1980-87 & 1987-90



Source: Bureau of Economic Analysis.

Figure 7-8

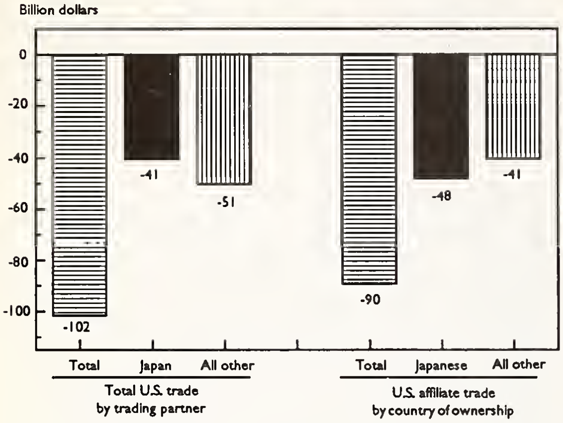
Japanese-Owned U. S. Affiliate Imports, by Value & Share of Total U.S. Affiliate Imports, 1980-90



Source: Bureau of Economic Analysis.

Figure 7-9

U.S. Merchandise Trade Deficits, Total by Trading Partner, and U.S. Affiliates by Country of Ownership, in 1990



Source: Bureau of Economic Analysis.

owned affiliates in 1990 and of their growth over the decade. Between 1980 and 1990, wholesalers accounted for 77.4 percent of the increase in Japanese-owned affiliates' imports, up $46.5 billion, and one-third of that import growth was accounted for by wholesalers of motor vehicles and equipment (Table 7-2). In contrast, manufacturers accounted for only 22.2 percent of the total rise in Japanese affiliates' imports (up $13.3 billion), of which $6.1 billion was by machinery producers. Data for motor vehicle and parts producers are not separately available, but they probably accounted for a very large share of the remaining $7.2 billion imports by Japanese-owned manufacturing affiliates.

The high share of imports by Japanese-owned wholesalers suggests that the Japanese parents -- particularly those that are producers -- place considerable importance on foreign direct investment as a means of selling in the United States. Indeed, in the case of autos, it seems unlikely that any foreign auto producer would have been able to gain the U.S. market share major Japanese auto producers attained by relying on unaffiliated importers. Wholesalers also accounted for most of the growth in exports by Japanese-owned affiliates (75.9 percent) between 1980 and 1990, while manufacturers accounted for only 22.8 percent of that growth.

European-Owned Affiliates' Trade. European-owned firms were the second largest U.S. affiliate importers (Figure 7-10). They had the second largest U.S. affiliate deficit in 1990, reaching $23.6 billion, which was far above their 1980 $9.9 billion level, but below their $32.7 billion peak deficit in 1987. In 1990, their deficit was more than offset by the larger U.S.-owned firms' trade surplus with Europe of $35.2 billion.

Manufacturing affiliates account for a far larger share of total imports by European affiliates than of total imports by Japanese-owned affiliates--nearly twice as large a share -- in 1990 (37 percent versus 16 percent respectively). Manufacturing affiliates also had a larger share of total exports by European-owned affiliates than of Japanese-owned affiliates (52 percent versus 14 percent respectively), suggesting that the European-owned manufacturing affiliates appears to have a far greater direct interest in selling U.S.-made products abroad than do Japanese-owned affiliates. In fact, European-owned manufacturing affiliates had a near balance in trade in 1990, while Japanese-owned manufacturing affiliates' imports were twice as large as their exports.

In 1990, the largest European affiliate importers

Table 7-2

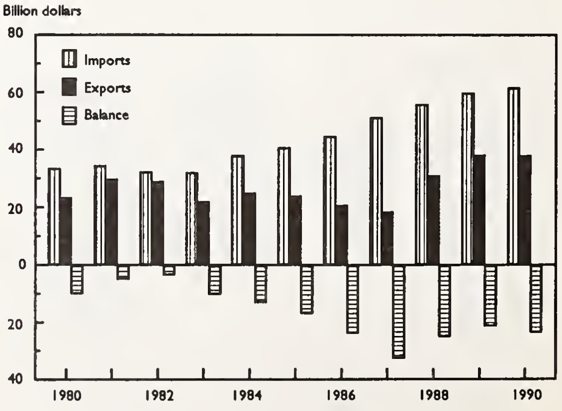
U.S. Merchandise Imports by Japanese-owned U.S. Affiliates (Billion dollars)

			1980-90 Increase	
Industry of Affiliate	1980	1990	Value	Share (%)
Total	$27.7	$87.7	$60.1	100.0
Wholesaling	26.9	73.4	46.5	77.4
Motor vehicle & equip.	11.9	32.3	20.4	34.0
Manufacturing	0.6	14.0	13.3	22.2
Machinery	0.4	6.6	6.1	10.2

Source: Bureau of Economic Analysis

Figure 7-10

U.S. Merchandise Trade of European-Owned U.S. Affiliates, 1980-90



Source: Bureau of Economic Analysis.

were German- and the U.K.-owned--accounting for 29 percent and 22 percent, respectively, of total European-owned affiliate imports. The largest European-owned affiliate exporters were French (30 percent), U.K. (21 percent) and German-owned (19 percent).

Canadian-Owned Affiliates' Trade. Canada is the largest overall U.S. export market by far -- nearly twice as large as Japan (the second largest U.S. export market) -- and the largest or second largest source of total U.S. imports, before or after Japan, depending on the year. However, this ranking is far from true for Canadian-owned affiliate trade, which is far smaller than the U.S. trade by either Japanese-owned or EC-owned affiliates. In 1990, Canadian-owned affiliates accounted for only about one-twentieth of total U.S. affiliate exports and imports. Like most other U.S. affiliates, Canadian-owned affiliates are also in large deficit. In 1990, the Canadian-owned affiliate trade deficit was $4.3 billion, up from $3.8 billion in 1980 and its $1.7 billion low point in 1983. Manufacturing firms are more important in Canadian-owned affiliate trade than wholesalers -- accounting for one-half of the imports and 86 percent of their exports in 1990.

All Other Affiliates' Trade. All other affiliates in 1990 accounted of only 12 percent of total affiliate imports and 9 percent of their total exports, but a more than proportionate share--15 percent--of their total trade deficit. The 1987-90 growth in their total deficit appears to be mainly due to the rapid rise in the trade deficit of their affiliates in the petroleum industry. The deficit of Mid-Eastern-owned affiliates rose from an $89 million trade deficit in 1987 to a $4.9 billion deficit in 1990. The deficit of Venezuelan affiliates--also heavily petroleum based--at least doubled, reaching $4.4 billion in 1990.[9]

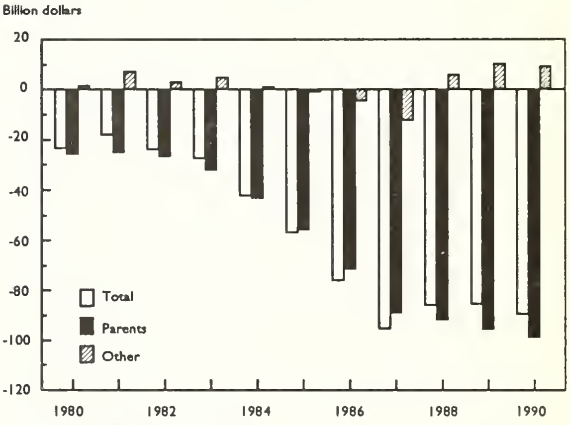
Trade with Parents and Other Related Parties

U.S. affiliate trade performance reflects close links with their foreign parents as well as their other affiliated firms, a relationship in which the parents are a dominant influence, particularly in the U.S. affiliates' imports. U.S. affiliates have tended to buy more from, rather than sell to, their foreign parent group firms than other trading partners. Moreover, over the 1980s, their imports from parent groups have grown far more rapidly than their exports to them, resulting in large, rapidly rising trade deficits with their parent firms.

U.S. affiliate merchandise imports from their parent group firms rose by 191 percent between 1980 and 1990, from $47.0 billion to $136.7 billion, resulting in a 280 percent rise in the U.S. affiliates' trade deficit with foreign parent groups to a record $98.9 billion (Figure 7-11). In 1990, this overall U.S. affiliate trade deficit with foreign parent groups nearly equaled the total U.S. merchandise trade deficit of $101.7 billion. In contrast, U.S. affiliate trade with unrelated foreign firms earned a small trade surplus for almost all of the decade, except 1985-87, earning a $9.3 billion surplus in 1990.

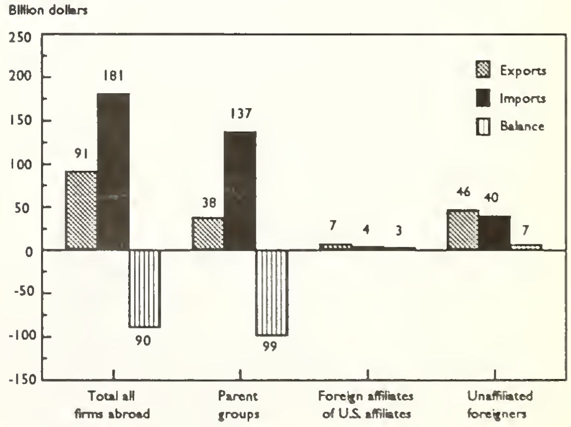
Purchases from parent groups have traditionally dominated U.S. affiliate imports with their share edging up from the first half to the second half of the 1980s, and reaching 76 percent in 1990 (78 percent when combined with imports from foreign affiliates of the U.S. affiliates) (Figure 7-12). U.S. affiliates, although to a less extent than

Figure 7-11
U.S. Affiliate Merchandise Trade Balances with Parents & Other Firms, 1980-90



Source: Bureau of Economic Analysis.

Figure 7-12
U.S. Affiliate Merchandise Trade, by Relationship, in 1990



Source: Bureau of Economic Analysis.

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[9] Between 1987 and 1990 total imports of crude petroleum rose from $2.7 billion to $4.8 billion.

for imports, were also highly dependent on parents as a market for their exports, reaching 41 percent of their total exports in 1990 (49 percent when combined with exports to other related firms abroad).

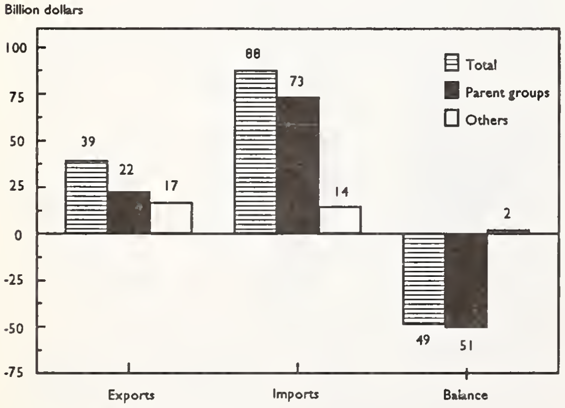
U.S. affiliate trade with their foreign affiliates has been relatively small compared with that with their parent groups and, as a result, has had little impact on the overall U.S. affiliate trade balance since 1987 (the first year such separate data became available). The U.S. affiliates' trade with related foreign affiliates abroad has been in small surplus since 1987, amounting to $2.7 billion in 1990.

The dominance of parent firms in U.S. affiliate trade performance has been very high for all affiliates owned by parents in all major nations. For example, in 1990, the share of affiliate total imports supplied by parent groups ranged from 64 percent for Canadian-owned affiliates to 67 for those that were European-owned, and 83 percent for those that were Japanese-owned. The high parent group share of imports by Japanese-owned U.S. affiliates resulted in a trade deficit of the U.S. affiliates with their Japanese parent groups that reached a record $52.0 billion in 1989 and a nearly as high $50.7 billion in 1990. The affiliates' 1990 parent group deficit exceeded their overall trade deficit of $49.1 billion, as their trade deficit with other foreign firms was in surplus (Figure 7-13).

Although the trade deficits between Japanese parent groups and their affiliates are substantially larger than those between other national parent groups and their affiliates, European-owned and Canadian-owned affiliates also have large deficits with their parents. Much like Japanese-owned affiliates, European- and Canadian-owned U.S. affiliates have surpluses with other foreign firms and deficits with their parent firms that are often larger than the affiliates' overall deficits. In 1990, the trade deficit of all European-owned affiliates with their parent groups reached $30.1 billion, compared with the European-owned affiliates' overall deficit of $23.6 billion, and that of Canadian-owned affiliates with their parents reached $5.6 billion, compared with their overall deficit of $4.3 billion.

Figure 7-13

Japanese-Owned U.S. Affiliate Merchandise Trade with Parent Groups & Other Firms in 1990



Source: Bureau of Economic Analysis.

Import Dependence

A major issue relating to U.S. imports by U.S. affiliates is the high dependence of their final sales on imports, regardless whether these firms are producers or wholesalers. Some observers contend that U.S. affiliates have been increasing the U.S.-produced content of their U.S. output, and decreasing their dependence on imported inputs. Other observers fear that their dependence on imports will increase.

A frequently cited measure of U.S. affiliates' import dependence is the ratio of imports to sales. However, this ratio substantially understates the better measure of degree of import dependence, which is the ratio of imported to total inputs (imports plus domestic inputs). Moreover, the total sales value includes the considerable value added even to imports that are merely resold in the U.S. market.[10] Unfortunately, a measure based on the ratio of imports to total inputs is not feasible with existing data. As a result, the best use of this ratio is in examining the trend of import dependence, not its level.

In terms of imports to sales ratios, BEA statistics show substantial differences among sectors and, therefore, implicitly among firms, as reflected by their ratios of imports to total sales. The average import dependence of all non-bank U.S. affiliates is very low, ranging between 19.3 percent (1987) and 15.5 percent (1990) over the past decade. As might be expected, import dependence is far lower for U.S. affiliates in manufacturing industries, averaging 11.6 percent in 1990, while those in wholesaling averaged 29.7 percent (Table 7-3).

These averages are substantially higher for key individual sectors within manufacturing and wholesaling. Because of its large size, the motor vehicles and equipment industry is an important example. In 1990, the motor vehicle manufacturing and wholesaling industries had import dependence ratios averaging 34.1 percent and 48.5 percent respectively, which were both much higher ratios than average for their entire manufacturing and wholesaling sectors.

The heavy weight and higher import dependence of motor vehicles and equipment in the overall wholesaling sector tends to obscure the much lower import-dependence of other sectors. Import dependence of these other U.S. affiliates in manufacturing averaged only 10.7 percent and those in wholesaling averaged 23.6 percent.

Since about 1987, but varying according to sector,

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[10] Even a firm that acts only as a wholesaler of its own imports adds considerable value to the cost of its imports (assuming that the firm is not merely a broker), which is in turn reflected in sales prices as markup for the value of the added goods and services inputs, such as repackaging, marketing, and shipping.

Table 7-3

U.S. Affiliate Import Dependence in 1990 (Average ratio of merchandise imports to sales)

Type of U.S. affiliate	Percent
All U.S. affiliates	15.5
By industry of U.S. affiliate:	
Manufacturing	11.6
Motor vehicles & equip.	34.1
Other manufacturing	10.7
Wholesaling	29.7
Motor vehicles & equip.	48.5
Other wholesaling	23.6
By country of UBO:	
Japan	28.0
Other UBO	10.9

Source: Bureau of Economic Analysis.

average import dependence appears to be edging downward for U.S. wholesaling affiliates, even for those in motor vehicle and equipment wholesaling. The import dependence of U.S. affiliates in motor vehicle and parts wholesaling decreased from a peak of 59.0 percent in 1988 to 48.5 percent in 1990, and those in other wholesaling groups decreased from a peak 29.6 percent in 1987 to 23.6 percent in 1990. However, the average import dependence of neither the motor vehicle and parts manufacturing group or the other groups of U.S. affiliates in manufacturing appeared to decrease significantly after 1987. In fact, import dependence for those in manufacturing of motor vehicles and equipment did not peak until 1989, at 42.9 percent, and then dropped sharply to 34.1 percent in 1990.

Japanese-owned affiliates appear to have relied far more heavily on imports to penetrate the U.S. market than most other foreign-owned affiliates, but they appear to be reducing this dependence. Much of the decline in overall U.S. affiliate imports to sales ratios since 1987 is accounted for by the sharp drop in the ratios for Japanese-owned affiliates. The rapid decline in Japanese import dependence between 1987 and 1990 can be partly attributed to the likely loss since 1985 in price competitiveness of Japanese exports due to yen appreciation, and the rapid growth in the number of Japanese-owned manufacturing affiliates.

A more precise measure of affiliate import dependence is one based on end use of the imports. It is not possible, however, to determine from existing BEA data the extent of recent shifts over time in the degrees to which affiliates have depended on imports for use as inputs in their production processes versus merely for resale. The data obtained by BEA annual surveys of U.S. affiliates do not identify the end use of imports by affiliates. The only recent data distinguishing differences in affiliate imports by end-use are reported for the 1987 BEA benchmark year, which distinguishes between (1) "goods for resale without further [processing, assembly, or] manufacture," and (2) all "Other" uses, that is, with further processing, assembly, or manufacture.[11] As a result, even for imports, it is clear, at the aggregate import level, that data do not distinguish between imports in 1987 used as inputs to manufacturing versus for other uses, because the scope of imports for "processing, assembly and manufacture" is far larger than use as inputs to manufacture.

It is also clear at the industry level, that this distinction is not feasible, not only because of this difference in scope, but also because the data are classified on an enterprise basis, by industry of affiliate. This classification scheme includes wholesaling activities by firms that are principally manufacturers and manufacturing activities by firms that are principally wholesalers. An important example of the difficulty that classification by industry of affiliate imposes on use of these data is shown by the fact that, in 1987, of those imports entered for "other" uses (with further processing, assembly, or manufacture), nearly three times more were imported affiliates classified as wholesalers of motor vehicles and equipment ($4.0 billion) than were imported by affiliates classified as manufacturers of those products ($1.4 billion).[12]

Affiliates' Trade in Services

The value of services that are traded internationally by U.S. affiliates include charges for technology and other intellectual property (usually recorded as receipts and payments of royalties and license fees), transportation of persons and goods, tourism, education, financial services, insurance, telecommunications, and business, professional, and technical services.

Data published by BEA on the operations of U.S. affiliates only partly cover their total international trade in services, unlike merchandise trade, which is fully covered. Fairly complete coverage is sought by BEA questionnaires on U.S. affiliates' services exports (sales of services to foreigners); however, no comparable complete data are sought on their services imports (purchases of services from foreigners) because of the difficulty of companies in reporting the applicable information on such purchases.[13] As a result, the U.S. affiliates' total trade balance in services cannot be determined. Based on anecdotal evidence, there is good reason to believe that their total imports of services are roughly at least as large as their exports, if not larger.

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[11] The bracketed portion appears in the questionnaire sent to affiliates, but is not reproduced in the brief BEA table heading reporting these data.

[12] See Table G-35, Bureau of Economic Analysis, U.S. Department of Commerce, *Foreign Direct Investment in the United States: 1987 Benchmark Survey, Final Results*, August 1990.

[13] The terms exports and imports of services are used here to refer to the more precise terms of sales to and purchases from foreigners. These services transactions are reported on a balance-of-payments current account basis. Services covered are in those identified in the "services division" of the Standard Industrial Classification and the International Surveys Industrial Classification systems: petroleum services, finance, insurance, real estate, agricultural services, mining services, transportation, communications, and public utilities.

Total Services Exports

The value of U.S. affiliate total exports of services more than doubled between 1987 and 1990, from $4.4 billion to $9.3 billion. Publication of these overall services export data began with 1987.[14] The total value of services exports by U.S. affiliates in 1990 equalled only one-tenth of the value of their merchandise exports. As in the case of the U.S. affiliates' merchandise exports, the largest share of affiliate services exports were to non-related parties (parties other than parents and affiliates located abroad).

The size of the affiliates' total services exports in 1990 ($9.3 billion) is far larger than the value of those exports to their foreign parents that was reported separately for balance-of-payments purposes ($4.4 billion). This difference suggests that the services exports of U.S. affiliates to other firms (affiliated firms and non-related firms) may have been in the order of $5 billion in 1990 -- roughly one-half the value of their total services exports. This large difference suggests that total U.S. affiliates' services imports also may have been far larger than the total imports from their parents ($5.7 billion) in 1990 reported for balance-of-payments purposes, and have been rising sharply since 1987.

Exports and Imports Services Trade with Foreign Parents

Imports of services reported by U.S. affiliates to BEA for balance-of-payments purposes are imports from their parents, unlike data on their exports of services which cover all types of services trade and with all foreign parties. The balance-of-payments data on affiliates' imports and exports with their parents are intended to cover the value of exports to (receipts) and imports from (payments) their foreign parent groups for (1) "royalties and license fees" for technology and other forms of intellectual property, and (2) "other private services", which includes other private services, such as rentals of tangible property and film and TV rentals.[15]

These data indicate that U.S. affiliates' services trade with their parents has been rapidly increasing, with both exports and imports nearly doubling in value between 1986 and 1991. The affiliates' trade in these services was in substantial ($1.5 billion) deficit, in 1991, with imports reaching $7.1 billion, and exports reaching $5.5 billion. The separately reported balance for "royalties and fees" was a deficit of $2.2 billion and for "other private services" a small surplus of $618 million in 1991 (Figure 7-14).

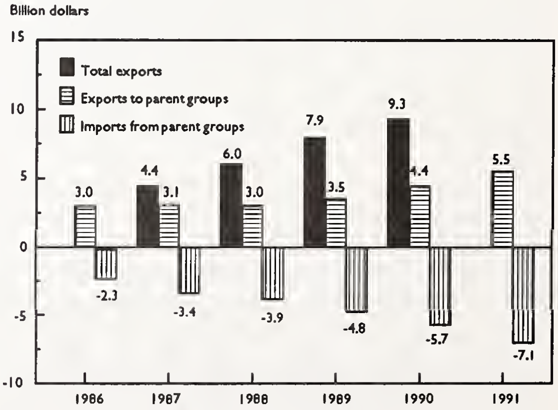
Contribution of U.S. Affiliate Trade to U.S. Economic and Job Growth

A key issue relating U.S. affiliates' operations is the contribution of their foreign trade to U.S. economic growth. To the extent that these firms are merely importers and not producers, it is difficult to make the case that they significantly add to U.S. economic and job growth in terms of total value of their sales. However, the number of U.S. affiliates that produce and process goods and services has been growing, adding directly to the U.S. economy.

In an accounting sense, any value added and jobs supported by U.S. affiliates are components of the U.S. output of goods and services (GDP) and employment. Even their value added to imports by these U.S. affiliates adds to U.S. GDP. However, in a causal sense, in some instances they also may even do so when U.S. producing firms depend on some of the U.S. affiliate imports as inputs to their production processes. Such an argument hinges on their not displacing domestically produced inputs. The extent of that displacement is difficult to determine. Bearing on this point, Orr finds no significant reduction of imports resulting from a growth in FDI in U.S. manufacturing, even several years after that FDI increase.[16]

Virtually all U.S. affiliates' exports, in an account-

Figure 7-14
U.S. Affiliate International Trade in Services, 1986-91*



*"Total exports" not available for 1986 and 1991. Total "Imports from other parents", nor therefore total from all sources, not available for any period.
Source: Bureau of Economic Analysis.

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[14] See BEA, *Foreign Direct Investment in the United States: Operations of U.S.Affiliates of Foreign Companies*, annual series, Table E-12 or equivalent, which covers sales characteristics of the industries identified as services in footnote 13.

[15] See the data on "U.S. affiliates' transactions" in John A. Sondheimer and Sylvia E. Bargas, "U.S. International Sales and Purchases of Private Services", in *Survey of Current Business*, September 1992, Table 2, page 83.

[16] Orr, p.67.

ing but not causal sense, can be described as contributing to U.S. economic growth. Not only do all of those U.S. affiliate exports directly account, to one extent or another, for U.S. output of goods and services, there also is some indication that their increase has contributed to U.S. export growth and thus U.S. economic growth. For example, Orr reports statistical evidence that U.S. manufacturing affiliates have increased exports over and above what they might otherwise be -- estimated at 5 percent, or $20 billion, higher in 1990.[17]

The Department of Commerce has frequently reported in publications and other statements that during the last half of the 1980s overall U.S. merchandise exports contributed an important share of the growth in the U.S. economy and jobs. It is estimated that U.S. affiliates accounted for a sizeable share of that growth, assuming a rough compositional comparability between overall U.S. merchandise exports and U.S. affiliate merchandise exports, and after adjusting for the extent of the annual rise in U.S. affiliate exports that is due to inclusion in those data the growth of exports by new U.S. affiliates acquired each year.

The evidence suggests that in some years U.S. affiliates accounted for a small but important share of total U.S. growth in GDP and employment. In 1990, U.S. affiliate merchandise exports accounted for roughly one-fourth of the total contribution to U.S. GDP by all U.S. firms' exports (Figure 7-15). During 1986-90, due both to the continued strong export growth and the slowing down of U.S. domestic demand, the growth in U.S. affiliate merchandise exports contributed an estimated 7 percent of total real U.S. GDP growth (as measured in terms of 1987 dollars). This estimate is a maximum share, because it does not take into account any import content in those exports. Moreover, based on additional research by the Department of Commerce, U.S. affiliate exports accounted for an estimated 1.7 million of the total 7.2 million U.S. jobs supported by overall U.S. merchandise exports in 1990.[18]

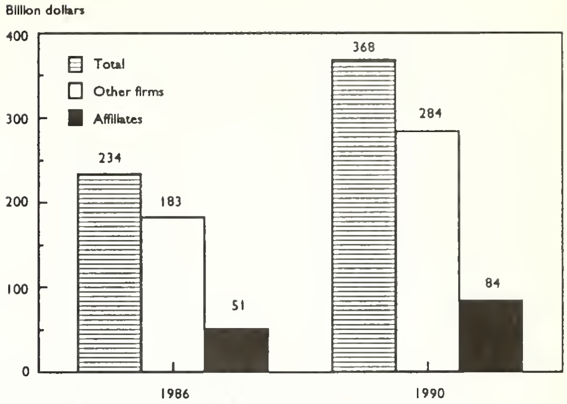
FDI Trade Balance Effects

U.S. affiliates accounted for a major share of the rise in the U.S. merchandise imports and the U.S. trade merchandise deficit from 1980 to 1987, when the U.S. deficit peaked. Moreover, between that peak and 1990 their trade deficit decreased far less than did the deficit of U.S.-owned firms.

Available trade data on U.S.- and foreign-owned firms can not provide a sound basis for establishing the causal relationship among the factors that have resulted in differences in their trade behavior. Nevertheless, the data do support some key conclusions based on a microeconomic accounting perspective. The data show that the affiliates have a much higher tendency to rely on imports for resale and use as inputs to their production processes than U.S.-owned firms.

Figure 7-15

Estimated Real U.S. GDP Accounted for by Merchandise Exports by U.S. Affiliates & Other Firms, 1986 & 1990



*Estimated in terms of 1987 dollars. Does not account for import content.

The statistical shift of acquired firms from U.S. to foreign ownership only partly explains the more rapid growth in imports and larger trade deficit of affiliates than U.S.-owned firms. An examination of the data suggests that the affiliates' trade performance probably was mainly due to the trade activities of existing affiliates, not new acquisitions.

Moreover, the affiliates' trade performance cannot be explained by the more rapid growth in the ownership of wholesaling versus manufacturing firms. Indeed, the opposite occurred: over the 1980s, a manufacturing affiliates' share of the total affiliate trade deficit more than doubled. Moreover, between 1987 and 1990, the absolute level of the manufacturers deficit continued to rise, while the wholesalers decreased slightly from its 1987 record peak.

The rising trade deficit of manufacturing affiliates suggests that linkages between parent and subsidiary and the less official, but nonetheless well documented, foreign country linkages (as in keiretsus) may well have contributed to increased affiliate trade deficit through most of the 1980s, particularly for Japanese-owned affiliates, who accounted for half of the affiliate trade deficit. The rising trade deficit of wholesalers is consistent with sound business experience that suggests that foreign-owned importers probably could not have sold most of their foreign-produced goods in the U.S. market as successfully without a U.S-based firm to take over distribution. The evidence suggests that this is the case, as with U.S. investment abroad, particularly where import barriers exist.

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[17] Orr, p. 67.

[18] Lester A. Davis, April 1992, *U.S. Jobs Supported by Merchandise Exports*, U.S. Department of Commerce, Economics and Statistics Administration, Office of the Chief Economist. Washington, D.C.

8

Taxes and Foreign-Controlled Companies in the United States[1]

*by Harry Grubert**

Foreign-controlled companies (FCCs) in the United States are subject to the same tax provisions as U.S.-controlled corporations (USCCs). Attention, however, has recently focused on the low taxable incomes, relative to revenues and assets, reported by foreign-controlled companies -- averaging only about one-third of that reported by U.S.-controlled firms. Questions have been raised about the extent to which foreign-controlled companies have shifted reported taxable income from high-tax jurisdictions to low-tax countries through abusive transfer prices, i.e., prices that depart from "arms length" standards, and through other means.

This chapter discusses possible explanations of the relative income differentials, including income shifting, where income shifting refers to reporting of income not consistent with the activities performed in each location. Because IRS[2] firm level data are not available to identify directly transfer price distortions, this chapter estimates their maximum size indirectly as a residual by estimating the effects of seven factors affecting those income differentials that can be specifically estimated: high debt charges, asset valuation distortions, unprofitable acquisitions, start-up costs, exchange rate changes, and differences between parent and affiliate profitability.

This econometric analysis indicates that about half of the discrepancy in taxable income as a share of assets or total receipts between FCCs and USCCs can be explained by the effects of the seven factors that can be specifically estimated. The remaining unexplained, half of the aggregate relative income differential may be attributed to the effects of factors that could not be specifically estimated, including the effects of income shifting and all other factors. These remaining factors may play a role in explaining relative income differentials, but are difficult to evaluate. They include the desire for diversification, differences in the cost of capital, and longer time horizons of FCCs versus USCCs. In any case, this unexplained half of the income differential should be viewed only as the maximum or upper bound for any share of the relative income differentials attributable to income shifting. This chapter also reviews recent changes in tax rules and procedures, such as Advance Pricing Agreements, which are designed to improve the tax compliance of both foreign-controlled and U.S.-controlled multi-national companies.

Foreign-Domestic Relative Income Differentials

Foreign-controlled companies have lower ratios of taxable income to assets and to receipts in the United States than do U.S.-controlled companies (Table 8-1). The difference persists for major industry aggregates (Table 8-2).

The data suggest that the low taxable income of foreign-controlled companies could be due in part to the artificial shifting of income to related parties abroad. The low earnings and tax payments of foreign-controlled firms potentially stem from many causes, including transfer price manipulation, greater debt and interest costs than their U.S counterparts, various effects of mergers and

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[1] The chapter is based on the statistical and econometric results of a study by Harry Grubert, Timothy Goodspeed, and Deborah Swenson, "Explaining the Low Taxable Income of Foreign-Controlled Companies in the United States," *Studies in International Taxation,* edited by Alberto Giovannini, Glenn Hubbard, and Joel Slemrod (Chicago: University of Chicago Press for the National Bureau of Economic Research), forthcoming. See J. Steven Landefeld, Ann M. Lawson, and Douglas B. Weinberg, "Rates of Return on Direct Investment," *Survey of Current Business,* August 1992, pp. 79-86, for an alternative approach to estimating rates of return based on BEA data on foreign direct investment in the United States and U.S. foreign direct investment abroad.

[2] The basis of the data is information collected from IRS Form 1120, the basic corporate tax form. The data are from unaudited tax returns. The IRS may have audited companies included in the analysis and collected additional taxes. Information on audited returns, however, is difficult to retrieve, and is not considered in this chapter.

The data include all companies reporting assets of $50 million or more, although a company with fewer assets may be included if its "proceeds," a measure of cash flow, are large enough. There is also a sample of smaller firms. Most of the statistical analyses described in this chapter are based on the group of nonfinancial companies with total assets in excess of $50 million. Form 1120 indicates whether 50 percent or more of the voting stock of a corporation is owned by foreigners, and if so, requests the owner's country, and provides the means for identifying foreign- and U.S.-owned companies. This definition differs from the BEA 10 percent or more ownership criterion.

Table 8-1
Taxable Income of Foreign-Controlled and U.S.-Controlled Companies

	Taxable Income as a Percent of:					
	Total Receipts			Total Assets		
Year	FCC	USCC	FCC-USCC	FCC	USCC	FCC-USCC
1981	1.4	2.7	-1.3	1.4	2.2	-0.8
1982	0.4	1.6	-1.2	0.3	1.3	-1.0
1983	0.5	2.3	-1.8	0.3	1.6	-1.3
1984	1.0	2.7	-1.7	0.8	1.9	-1.1
1985	0.6	2.6	-2.0	0.5	1.7	-1.2
1986	-0.3	2.7	-3.0	-0.2	1.7	-1.9
1987	0.8	3.1	-2.3	0.1	1.9	-1.8
1988	1.4	3.7	-2.3	0.9	2.2	-1.3
1989	0.9	3.1	-2.2	0.6	1.8	-1.2

Source: Tabulations by the Statistics of Income Division of the Internal Revenue Service.
Note: Taxable income is equal to total revenue less total deductions, but before deductions for previous net operating losses and for dividends paid out (line 28 of the corporate tax return, the Form 1120 in 1987).

Table 8-2
Ratio of Corporations' Taxable Income to Total Receipts by Industry Category (Percent, 1989)

Sector	Foreign-Controlled	Other Corporations	Foreign less Other
Manufacturing	1.7	5.5	-3.8
Wholesale & retail trade	0.2	1.3	-1.1
Finance, insurance & real estate	0.9	6.1	-5.2
All Industries	0.9	3.8	-2.9

Source: Tabulations by the Statistics of Income Division of the Internal Revenue Service.
Note: "Other corporations" differ somewhat from the USCC category in Table 8-1. They include, for example, S corporations, which are not included in USCCs.

acquisitions, start-up costs, and fluctuations in exchange rates. Each of these factors might lower the rate of return of foreign-controlled corporations.

Explanations of the Relative Income to Asset Ratio Differentials

When goods and services are shipped between related parties -- such as between divisions of a multinational company -- a transfer price for the good or service must be determined in order to establish the net income of each of the parties. Transfer prices may be used to price goods, intangibles, and management services so that taxable income is shifted to a low tax jurisdiction. Multinational corporations have an incentive to overprice goods and services shipped from low-tax to high-tax locations (and underprice goods and services shipped from high-tax to low-tax locations). They can thereby reduce their worldwide tax liability. However, the bilateral comparison between U.S. and home country tax rates should not be overemphasized because income can easily be shifted to tax havens interposed between the two. Most industrialized countries do not have the strict anti-abuse rules that are contained in U.S. law limiting the routing of sales or services income through a tax haven.

The current transfer pricing regulations under section 482 of the Internal Revenue Code, as well as all U.S. bilateral income tax treaties, provide that the correct price or charge for a product or service generally shall be determined under the internationally accepted "arm's length" standard. The arm's length price is the price that unrelated parties would pay for the good or service under similar circumstances. The amounts charged in an intracompany transaction may be adjusted to the extent they differ from the amounts that would have been charged in comparable transactions between unrelated parties. Where comparable transactions are unavailable, the regulations generally specify other methods to approximate an arm's length price. If multinational corporations use the appropriate arm's length transfer prices, the income they report in various locations will accurately reflect the economic functions actually performed there.

Higher debt charges are a second means by which foreign-controlled companies might achieve relatively low U.S. taxable income. The observed difference in income between foreign-controlled companies and other U.S. companies may be due to unusually high interest payments paid to related parties offshore (a practice sometimes called "earnings stripping"). When a related company abroad lends to a U.S. affiliate, it need not be concerned with the risks of the affiliate's taking on too much debt. These are simply intra-firm transactions which do not affect the company's consolidated debt to outside lenders. The foreign-controlled affiliate in the United States is therefore in a position to have a higher debt-asset ratio than comparable U.S. companies that can only borrow from unrelated lenders. The offshore parent can also attempt to charge a higher interest rate than would be paid to unrelated lenders incurring the same risk.

Third, foreign direct investment in the United States in the form of acquisitions can have a number of accounting and tax consequences, which in turn affect the measured foreign rate of return. The major source of new direct investment in the United States since at least the late 1970s has been acquisitions rather than "greenfield" plants.[3] One consequence is the straightforward increase in the book value of assets, which lowers the measured ratio of taxable income to assets. A second consequence of asset revaluation is that a firm that maintains a given ratio of debt to assets will experience an increase in interest expenses, which in turn erodes the firm's taxable income. Finally, an acquisition would often, particularly before 1987, lead to a step-up in basis and higher depreciation deductions, again leading to lower taxable income.

Fourth, foreign acquirers may also tend to buy relatively unprofitable U.S. companies with the intention of making better use of the assets. This possibility is suggested by the annual Commerce data on U.S. businesses acquired by foreign investors, which give the income of the company in the year preceding the acquisition (as reported by the bought firm). Eventually the assets acquired would be expected to become more productive. But, the current average taxable income of foreign-controlled companies may be temporarily reduced due to the significance of recent acquisitions.

A fifth possible cause for the low observed return of foreign-controlled companies is start-up costs. These costs refer to the temporary up-front losses or low accounting profits arising from diseconomies of small scale, learning by doing activities in their early stages, investment in marketing and R&D, and so forth. A similar unprofitable phase may take place in the case of acquisitions as well. These costs may be particularly high for foreign firms that must get to know a market different from its home base. Since these are presumable temporary costs, they can be expected to diminish over time as a firm matures.

A sixth possibility is that an unexpected fall in the dollar after 1984 raised costs and thereby lowered the rate of return of foreign-controlled companies. While exchange rate changes could not be used to explain rates of return that are permanently below domestic rates of return, they may have significant temporary effects. Because foreign-controlled companies, and those in wholesaling in particular, rely on imports more heavily than domestic companies, an unexpected drop in the U.S. dollar will increase relative costs more for foreign-controlled companies.[4] Irrespective of whether the foreign companies absorb the cost increase to maintain market share, as is sometimes alleged, or simply raise their prices with a resulting loss in sales, their rates of return would be expected to fall as a result.

Finally, some claim that foreign companies have a lower cost of capital than U.S. companies. A lower cost of capital may cause foreign firms to accept a permanently lower rate of return. It may also lead them to prefer profit profiles in which initial returns are relatively low but grow over time. However, how to measure differences in the cost of capital across countries remains controversial, and a consistent set of cost of capital estimates is not available for most industrial countries.

Data Analysis and Statistical Results

Firm-level IRS data[5] are used to evaluate the significance of alternative reasons for differentials between foreign-controlled and domestic company incomes, other than income shifting. A cross-section of firms in 1987 is examined for evidence on revaluation effects, debt and earnings stripping, and cross-country differences. Data on a panel of firms, from 1980 to 1987, are analyzed to determine the importance of exchange rate and maturation effects, and to gauge the propensity of foreign and domestic firms to persist in particular rate of return categories. In addition, the relationship between foreign parent characteristics and their U.S. subsidiaries' profitability is explored, and the profitability of foreign acquisitions before purchase is compared with the profitability of the average U.S. non-financial company.

The statistical analysis finds that, overall, at least half of the discrepancy in taxable income between FCCs and USCCs appears to be attributable to factors other than income shifting and transfer price distortions.

Debt. Excessive debt or earnings stripping does not seem to explain foreign companies' low average profitability. A 1987 sample of about 600 non-financial FCCs and 4,000 USCCs, covering 68 and 72 percent of aggregate assets respectively, indicated that foreign companies' average debt-asset ratio is virtually the same as comparable U.S.- controlled companies. The average debt to asset ratio for domestic companies was 66 percent compared to 69 percent for FCCs. Adjusting for industry and date of incorporation eliminates even this small difference. Furthermore, for a given level of debt, foreign companies' interest expense in relation to assets is lower than their U.S.- controlled counterparts.

Distortions Due to Valuation and Integration. Because assets are based on historical valuations, the comparison of the ratios of taxable income to assets of FCCs to USCCs is distorted. The importance of recent foreign acquisitions causes the book value of foreign-controlled assets (used in the denominator of the ratio) to be much closer to market value than the book value of domestic companies to their market value. Similarly, the ratio of taxable income to revenue is distorted by foreign companies' greater reliance on outside suppliers. These less integrated companies would be expected to have lower profit margins on sales because any given sales level corresponds to a smaller amount of in-house value added and capital.

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[3] See the annual articles in the May issue of the *Survey of Current Business* on U.S. Business Enterprises Acquired or Established by Foreign Investors. In 1989 and 1990, for example, acquisitions accounted for 84 percent of investment outlays.

[4] See Table 3.1 in *Foreign Direct Investment in the United States*, by E.M. Graham and P. Krugman (Washington, D.C.: Institute for International Economics, 1989).

[5] See footnote 2.

Unprofitable Acquisitions? Foreign companies do not systematically invest in "losing" companies. A sample of 118 U.S. companies acquired by foreigners from 1980-1987 indicates that they were not relatively unprofitable prior to being acquired. They also tended to be somewhat faster growing than the average U.S. company. Their profitability in the year prior to acquisition was obtained from Compustat[6] and compared with the average U.S. non-financial company on Compustat that year. There were no significant differences in rates of return. This finding seems inconsistent with BEA data published in the *Survey of Current Business*[7] that are based on surveys of the foreign-owned companies after they have been acquired. These surveys ask the newly acquired U.S. firm to report its income the year prior to being acquired. The inconsistency may be due to differences in sample size and coverage, to purchases of parts or divisions of a company, rather than the whole firm, and other differences.

Start-up Costs and Maturation Process. A sample of tax return data for foreign-controlled (FCC) and U.S.-controlled (USCC) domestic companies from 1980 through 1987 indicates that the profitability of foreign-controlled manufacturing companies tends to rise over time relative to comparable USCCs, suggesting some sort of start-up cost or maturation process. Foreign-controlled companies may, therefore, be willing to accept lower returns in the short run because of expected higher profits in the future. The large volume of recent investments can explain part of the relative income differentials.

Exchange Rate Changes. The 1980-87 sample also shows that the taxable income of foreign-controlled wholesaling companies is affected by the price of the U.S. dollar relative to other currencies because of their disproportionate dependence on imported goods. The profitability of foreign-controlled wholesaling companies declined markedly as a result of an increased dollar cost of imported goods following the fall in the dollar after early 1985.

Foreign Parent and Affiliate Profitability. Linking a sample of about 300 foreign-controlled companies with financial information on their parents' worldwide activities revealed that the parents tended to be more profitable than the average U.S. company, suggesting that cost of capital advantages are not important. The lower relative incomes of their U.S. affiliates thus do not seem to be explained by their parents' willingness to accept lower worldwide returns.

Relative Income Differentials by Country of Ownership

Low average taxable income[8] is characteristic of foreign-controlled companies generally, irrespective of their home country. The average discrepancies, relative to USCCs, in the non-financial companies' ratio of taxable income to assets show notable relative uniformity for each of the major investing countries (Table 8-3). The differentials are adjusted for debt in relation to assets and for major industry category. The Japanese differential is close to the average, similar to the U.K. differential and lower than the German differential.

It might be argued that if there is widespread income shifting, the relative income differentials should vary depending on the home country's tax rate since the statutory tax rate and other features of the tax system determine the benefit of shifting a dollar of income from one jurisdiction to another. In 1987, the U.S. corporate tax rate was 40 percent, and it is now 34 percent. Many home countries now have corporate tax rates above the United States, but these bilateral comparisons are inadequate. Income can be shifted to low-tax countries where multinational corporations may have sales, manufacturing, or financing affiliates. As indicated earlier, most foreign governments do not have the anti-abuse rules contained in U.S. law which limit the benefits of tax haven operations.

A simple comparison of corporate tax rates is also inadequate because many countries have corporate tax integration schemes which reduce the double taxation on corporate dividends. In many cases, the relief of double taxation provided to shareholders is restricted to the amount of tax actually paid to the home country. Foreign tax credits (or exemption of foreign dividends at the corporate level) are not passed through to the ultimate shareholder. A multinational corporation with substantial foreign operations may, therefore, prefer to report the income at home rather than abroad, even though the foreign tax rate is lower.[9]

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[6] *Compustat* is a computerized data base compiled by Standard and Poor from company financial reports.

[7] See for example, "U.S. Business Enterprises Acquired or Established by Foreign Direct Investors in 1991," *Survey of Current Business*, May 1992, and similar articles published annually.

[8] This evidence on taxable income differentials by country may not agree with analyses based on book or financial reporting income data, e.g., of the kind published by BEA. Book income and taxable income may differ for various reasons. In some cases, book income may exceed taxable income. For example, incentives such as accelerated depreciation reduce taxable income but not income for financial reporting purposes. On the other hand, some items, such as goodwill, may be deductible from book income but not taxable income.

[9] Since the Tax Reform Act of 1986 did not target foreign firms, within a given industry there doesn't appear to be any reason why the act would affect foreign and domestic fimrs differently. The Act did, however, increase corporate tax burdens, as a reduction in corporate marginal tax rates was offset by lengthening of depreciable lives, repeal of the investment tax credit and adoption of the corporate alternative minimum tax.

Table 8-3

Country Effects for Taxable Income/Assets Differentials*

(1987 Cross-section sample, in percent)

Country	Taxable Income/Assets Relative to USCCs
Canada (75)	-1.8
Japan (86)	-2.5**
United Kingdom (122)	-2.6**
Netherlands Antilles (26)	-3.8**
Netherlands (65)	-1.4
Germany (42)	-4.8**
France (35)	-2.7
Sweden (20)	-3.1
Switzerland (30)	-2.9
Bermuda and Panama (10)	1.9
Australia (14)	-4.9
Italy (3)	-15.5**
Other Foreign	-2.4

* Adapted from Grubert-Goodspeed-Swenson. Regressions are used to control for industry, debt-asset ratios, and date of incorporation. Based on all non-financial corporations with assets in excess of $50 million. A double asterisk denotes income as a share of asset value differentials statistically different from zero at the 5 percent significance level. Note: The numbers in parentheses are the number of companies in each category.

Evidence of Income Shifting

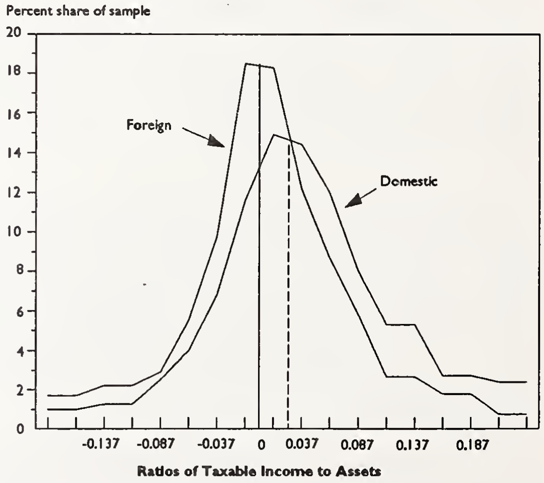
The distribution of the ratio of taxable income to assets is consistent with the pattern that would result from income shifting. If the low average income of foreign-controlled companies was due to extremely large losses by a relatively small number of companies, it would be difficult to attribute the low average profit rate to income shifting. Successful income shifters would have moved the losses to some other part of the worldwide enterprise where they have positive taxable income.

If there is significant income shifting, a pattern in which the ratio of taxable income to assets is strongly concentrated near zero would be expected. If companies could shift income without cost or penalty, their U.S. taxable income would always be at zero as long as they have positive worldwide income, and as long as the U.S.-derived income could be shifted to localities with lower marginal tax rates.

The distributions of the ratio of taxable income to assets for the 1987 cross-section of 600 foreign-controlled, and about 4,000 U.S.-controlled, non-financial companies show that foreign companies exhibit the pattern consistent with significant income shifting (Figure 8-1). Not only is the distribution of foreign-controlled companies centered at zero, but it is much more concentrated around zero than the distribution of domestically controlled companies. (This pattern holds for other time periods and other sector groupings as well.) Large foreign losses are more common than for U.S. firms, but do not explain much of the overall differential. In addition, there is a very large disparity at the high end, where there are very few, very profitable, foreign- versus domestic-controlled companies. It is the potentially very profitable foreign companies that would be expected to have the most leeway in shifting income out of the United States, and companies who could successfully shift income would not be expected to leave large profits in the United States. In fact, the data show that the frequency of very profitable companies is three times greater for domestic companies than for foreign ones.[10]

Figure 8-1

Foreign and Domestic Distributions of the Ratio of Taxable Income to Assets



Source: Grubert, Goodspeed, and Swenson, December 1991, Table 4.1. Distributions based on 1987 retruns with assets greater than$50 million.

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[10] Grubert, Goodspeed and Swenson, *op. cit.*, p. 23 and Table 4.1, p. 24.

The behavior of companies over the period from 1980 to 1987 was consistent with the picture conveyed by the 1987 cross-section. A statistical analysis of the data indicates that not only are foreign-controlled companies concentrated near zero taxable income, but they are more likely to persist there over time. They are also more likely to move back to the region near zero if they have been profitable.

As noted previously, factors other than income shifting explain at least fifty percent of the income ratio differentials between FCCs and USCCs. However, what percentage of the remaining unexplained relative earnings differential is attributable to the manipulation of transfer prices is difficult to establish. The fifty percent of the aggregate income to receipts and income to assets ratio differentials that is unexplained by the statistical analysis can only be regarded as an upper bound for the total amount of income shifting. A range of other factors may play an important role in explaining relative taxable income to asset ratio differentials, but are difficult to evaluate and, thus, have not been fully considered. These other factors include the desire for diversification, differences in the cost of capital, and longer time horizons of FCCs versus USCCs. There are conceptual problems in addressing the cost of capital,[11] and further assessments of these factors would require details about the composition of individual multinational companies which are not readily available.

Recent Statutory and Regulatory Developments

A number of recent statutory and regulatory developments should improve tax compliance by both foreign-controlled and domestic companies. They are, in part, motivated by the low taxable income reported by foreign-controlled companies described in the previous section.

Information Reporting and Record-Keeping

One of the most significant of these recent developments relates to information access and reporting. A principal problem has been the difficulty of obtaining information needed to administer the transfer pricing rules with respect to FCCs. In 1989, Congress amended section 6038A of the Internal Revenue Code to require U.S. corporations with at least 25 percent foreign ownership to report transactions with foreign related parties; to maintain records needed to substantiate the tax treatment of transactions with related parties; and to require the foreign related party to designate an agent for purposes of receiving an administrative summons from the U.S. Internal Revenue Service (IRS) in connection with an audit.

If a foreign related party fails to authorize its U.S. affiliate to act as its agent for purposes of a summons, or if it fails to furnish information with respect to a transaction between related parties, the Secretary of the Treasury may determine the deductions and other tax items attributable to the transactions based on the information then in its possession. In 1990, Congress enacted similar legislation under section 6038C of the Internal Revenue Code with respect to U.S. branches of foreign corporations.

In December 1990, the IRS issued proposed regulations under section 6038A implementing the statutory amendments. The proposed regulations were promptly modified to reflect many of the concerns expressed in comments submitted by taxpayers and foreign governments, and were issued in final form on June 14, 1991, only six months after their release in proposed form.

These regulations reflect the United States' legitimate interest in monitoring and adjusting the tax effects of inter-company transactions between U.S. corporations and their foreign owners. Domestically-owned corporations operating in the United States, as well as foreign subsidiaries of U.S. corporations, are required to supply similar information and are subject to similar penalties for non-compliance. The overall effect of these provisions, therefore, is to treat FCCs in a manner that is comparable to the manner in which USCCs are treated.

Section 482 Temporary Regulations

While section 6038A is the most significant recent procedural development in the area of transfer pricing, the most important recent substantive development probably is the temporary regulations under section 482 of the Internal Revenue Code, which were released in January 1993. These temporary regulations replaced proposed regulations issued in January 1992 and are intended to implement the changes in section 482 made by the Tax Reform Act of 1986.

The temporary section 482 regulations are intended to improve the administration of section 482 in two critical respects:

- First, they are intended to encourage taxpayers to comply with section 482 when they plan their inter-company transactions.
- Second, they fill a gap in the current regulations by providing tools needed to determine the arm's length consideration for intangible property.

Recognizing the fact that the determination of transfer prices is not an exact science, the temporary regulations permit considerable flexibility in the choice of pricing methods. The strict priority of methods set forth in the earlier proposed regulations has been replaced by a

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[11] Note that there is continuing controversy about how to measure differences in the cost of capital across countries. See James Poterba, "Comparing the Cost of Capital in the United States and Japan: A Survey of Methods," *Federal Reserve Bank of New York Quarterly Review*, Winter 1991, pp. 20-32.

"Best Method Rule" under which the preferred method in any given case is selected based on all the facts and circumstances. The regulations also permit the use of more than one method to confirm the results obtained under other methods.

General Principles. An important difference between the January 1992 proposed regulations and the revised regulations is that the revised regulations set forth several principles that are of general application under all the methods. Rather than a set of specific rigid methods, the regulations set forth flexible methods, the application of which is guided by these general principles. These principles include the Best Method Rule, which, as discussed above replaces the strict priority of methods contained in the proposed regulations; guidance on determining an arm's length range of results under all methods; comprehensive guidance on factors to consider in identifying comparable transactions; and adjustments that must be made under specified circumstances. Set forth below is an explanation of each of these provisions.

Best Method Rule. The strict priority of methods contained in the proposed regulations is replaced by the Best Method Rule. Imposing a strict priority of methods can present several problems. It may be necessary to determine that a higher priority method is inapplicable before a lower-priority method could be applied. In addition, it is not always clear that the ranking of the methods actually reflects the relative reliability of the methods in all cases. On the other hand, a strict priority of methods offers the advantage of providing guidance and certainty to taxpayers and tax administrators. Consequently, it was necessary to balance the need for more flexibility against the need for additional guidance as to which methods are most appropriate in a particular case.

The Best Method Rule attempts to achieve this balance by recognizing that the method that provides the most accurate measure of an arm's length result will vary, depending upon the facts and circumstances of the transaction under review. In considering which method provides the best measure of an arm's length result, factors to be considered include the completeness and accuracy of available data, the degree of comparability between controlled and uncontrolled transactions, and the extent of adjustments necessary to apply the method.

Since it will not always be clear which method provides the most accurate measure of an arm's length result, the Best Method Rule also permits consideration of more than one method to determine an arm's length result. When the Best Method Rule does not clearly indicate a preferred method, an additional factor to be considered in determining which method should be applied is whether any of the alternative methods produce results that are consistent with results obtained under another method.

Arm's Length Range. The revised regulations extend the concept of a range of acceptable results, introduced in the proposed regulations, to all of the transaction-based methods. Such an approach recognizes the fact that there often will be more than one arm's length price. Under the transaction based methods, the range consists of all of the arm's length results derived from the proper application of that method to more than one unrelated comparable party.

Comparability. A factor common to all the methods is that they rely to varying degrees on information from unrelated parties. Therefore application of any method requires identification of comparable parties engaged in comparable transactions or activities under comparable circumstances. This process requires a comparison of functions, risks, contractual terms, economic conditions and property transferred. A functional analysis is a particularly critical element of this process. Although a functional analysis is not a pricing method and does not itself determine an arm's length result, it is central to identification of a comparable party. It identifies and compares the economically significant activities undertaken by the controlled and uncontrolled parties.

Special Adjustments. Several special circumstances may require adjustment to results that otherwise would be considered arm's length. One such circumstance is the use of a market penetration strategy. The revised regulations provide that the arm's length charge for property may, for a limited time, differ from that charged in an otherwise comparable transaction if the parties to the controlled transaction have adopted a market share strategy. In addition, special adjustments may be made when the controlled taxpayers operate in different geographic markets than the uncontrolled parties. In such cases the controlled and uncontrolled parties may incur different levels of costs attributable to the fact that they operate in different locations. Adjustments may be made to reflect these differences, but only where the cost differences would increase (or decrease) the profits of uncontrolled parties, given the competitive positions of buyers and sellers in the market.

Other Statutory Developments

In addition to the temporary section 482 and final section 6038A regulations, there have been several other important developments since 1989 that are directed at improving the application of section 482 with respect to FCCs as well as USCCs. These measures included the following:

- A provision which increases by 2 percentage points the interest rate imposed on large underpayments of tax by corporations.

- Section 6662(l), which imposes a penalty with respect to significant underpayments of tax that are attributable to a section 482 adjustment and for which the taxpayer cannot show reasonable cause. Under this provision, a 20 percent penalty may be imposed if the taxpayer charges consideration for property or services that is greater than 200 percent (or less than 50 percent) of the amount determined to be correct under section 482. The penalty is increased to 40 percent in the case of a "gross valuation misstatement,"*i.e.*, where the amount reported is greater than 400 percent or less than 25 percent of the correct amount.

- "Earnings stripping" rules enacted in 1989 which restrict the ability of FCCs and USCCs to reduce their U.S. tax by making deductible interest payments to related parties offshore. If an FCC's ratio of debt to equity exceeds 1.5 and its interest expenses exceed 50 percent of its cash flow (income before interest and depreciation deductions), some of the deductions for interest payments to related companies abroad are disallowed.

Advance Pricing Agreements

As part of its effort to augment traditional enforcement methods and to encourage voluntary compliance, the IRS has recently developed the Advance Pricing Agreement (APA) process. The APA process provides an alternative to the ordinary administrative, judicial, and treaty dispute resolution mechanisms for resolving intercompany pricing issues.

A taxpayer initiates the APA process to obtain agreement from the IRS about the method used to price the taxpayer's related party transactions. An APA ordinarily is effective for a fixed term of years. When the taxpayer has executed an APA, the IRS generally will treat the transfer pricing method set forth in the APA as meeting the arm's length standard. The IRS generally will limit its audit activity to ascertaining whether the representations made in reaching the APA were accurate, whether the assumptions on which the APA is premised remain valid, whether the pricing methodology established in the APA has been incorrectly applied, and whether the results contemplated in the APA are achieved in practice.

The IRS developed the Advance Pricing Agreement process with the issuance of Revenue Procedure 91-22 in March 1991. APA is a prospective agreement between the taxpayer and the IRS that a particular transfer pricing method when applied to the taxpayer's operations will determine compliance with the arm's length standard of Section 482. If a treaty country is involved, the IRS will generally seek a mutual agreement. Taxpayers have welcomed the idea as a way to avoid confrontations with the IRS over international transfer pricing. Both the IRS and taxpayers who are participating have made a determined effort to deal with each other in less adversarial ways. Taxpayers have voluntarily disclosed sensitive information about their operations and methods to educate the IRS about their businesses. They have prepared and disclosed analyses of their business, their markets and their competition that heretofore have not been made available to IRS agents. In return, the IRS has allowed taxpayers to define and confine the issues and information to that which the taxpayers reasonably believe is crucial to understanding and resolving the issues.

The APA process is designed to enable taxpayers and the IRS to agree on the proper treatment of transfer pricing, including cost-sharing arrangements. An APA need not cover all of a tax-payer's pricing arrangements. Rather, the Revenue Procedure gives the taxpayer flexibility to limit its APA request to "specified prospective tax years," "specified affiliates, and "specified intercompany transactions."

The goal of the APA process is to arrive at an agreement on three basic points: (1) a description of the intercompany transactions to which the APA applies; (2) the transfer pricing methodology to be applied to those transactions; and (3) the arm's length range of results to be expected from applying the methodology to the transactions. The third of these points is not always needed; the IRS will, in appropriate cases, consider APAs that set forth a TPM without specifying a range.

Status of the APA Program as of December 1992

The IRS has approximately 35 taxpayers in the APA program, at various stages of development, involving operations in 15 foreign countries. Twelve of these requests are substantially completed and five of these are subject to competent authority resolution.

The IRS has a total of 14 closed cases, five APAs all resulting in bilateral agreements and nine taxpayer withdrawals. The withdrawals were caused by a variety of non-tax business factors, e.g., management personnel changes and restructuring of operations. Approximately 24 additional taxpayers are actively "considering" the APA process and have held very preliminary discussions with the Service.

Taxpayers in the following industries or product areas have become involved with the APA process: electronics, pharmaceuticals, financial products, commodity trading, oil & oil products, automotive, beverages, apparel, construction & engineering, steel & steel products, forestry, services (information, research, marketing), and various light manufacturing activities.

In-process APAs cover a wide spectrum of inter-affiliate transactions, both outbound and inbound, involving the transfer of goods, services, or intangibles. The transfer pricing methods being consolidated involve versions of each method stated in the existing and proposed regulations.

In sum, the developments of the past three years have made important changes in the administration of section 482. Although many of these new measures apply equally to domestic and foreign taxpayers, the rules should be especially useful in addressing the problem of compliance by foreign owners of U.S. businesses. The number of audits of FCCs has increased dramatically, the ability of foreign owners (who are so inclined) to conceal information has been reduced, and the Internal Revenue Service's ability to litigate transfer pricing disputes has been enhanced.

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Federal Government Data on Foreign Direct Investment in the United States

The principal sources of data used in this second annual report on foreign direct investment in the United States are those collected by the Bureau of Economic Analysis and the Bureau of the Census, which largely cover the universe of all foreign direct investment and the operations of foreign-owned firms. Other Federal data sources collect specialized data on specific industries, such as those on agriculture, real estate, energy, and banking.

This chapter provides a guide to these data sources and their coverage. Described first are BEA enterprise statistics, and second are establishment data obtained by linking the Census and BLS data to BEA data. A final section summarizes the FDIUS-related data collected by other agencies.

Bureau of Economic Analysis Data

The principal Federal Government source of data on foreign direct investment in the United States (FDIUS) is the enterprise, or company, level data provided by the Commerce Department's Bureau of Economic Analysis (BEA). These data are the most comprehensive and detailed data on this topic collected by any country. They embody consistent reporting standards and definitions that have been used as a model for the compilation of direct investment statistics by international organizations such as the International Monetary Fund and the Organisation for Economic Co-Operation and Development. The data are carefully edited by BEA after extensive consultations with the companies that report them. Universe estimates, rather than only reported sample data, are provided by BEA, covering both transactions between U.S. affiliates and their foreign parents and the overall operations of the affiliates. BEA also analyses and interprets the data.

In the past year, the BEA data have been supplemented with new establishment, or plant, level data compiled by the Bureau of the Census and the Bureau of Labor Statistics (BLS). These new data were compiled by linking those agencies' data for all U.S. companies to the data for foreign-owned companies collected by BEA. These new linked data do not provide for the same range of data items as the BEA enterprise data, but they provide a much finer degree of detail on the specific activities of foreign-owned firms in the United States. Together, the data from BEA, Census, and BLS provide a very wide variety of general purpose statistics on FDIUS for use by policymakers, businesses, researchers, and others.

A few other Federal agencies also collect information on FDIUS, but it is narrower in scope and purpose. For example, the Agriculture Department collects information on ownership of agricultural land by foreigners, while the Federal Reserve Board collects information on the operations of foreign-owned U.S. banks. For tax purposes, the Internal Revenue Service collects information on FDIUS, but it covers only "foreign-controlled" companies—those owned at least 50 percent by foreigners—and, as discussed later, differs from BEA's data in a number of other ways. Other agencies collect a variety of information on U.S. businesses in which there is foreign ownership; however, they do not collect it specifically to monitor or analyze FDIUS, but rather as a byproduct of meeting their broader program responsibilities. For example, the Securities and Exchange Commission (SEC) maintains information on the nationality of major stockholders in publicly traded companies as a part of its regulatory responsibility to monitor investors, both foreign and domestic. Although not collected for purposes of monitoring FDIUS, such information can supplement other data on FDIUS, especially if—as is the case with the SEC data—data for individual companies may be made available to the public. (As discussed below, the legislation under which the major statistical agencies collect data explicitly prohibits the disclosure of data of individual companies.)

Types of Data Collected

BEA's surveys of FDIUS are conducted at the enterprise (company) level and collect two types of data—(1) direct investment position and balance of payments

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*This chapter was prepared by the staff of the International Investment Division of the Bureau of Economic Analysis. The staff members who worked on this project were R. David Belli, Obie G. Whichard, Steve D. Bezirganian, Sylvia E. Bargas, and Mahnaz Fahim-Nader.

data and (2) financial and operating data.[1] The data are collected from U.S. business enterprises, whether incorporated or unincorporated, that are owned 10 percent or more, directly or indirectly, by a foreign person.[2] These business enterprises are termed "U.S. affiliates" of foreign direct investors.

Direct Investment Position and Balance of Payments Data.

These data cover foreign parents' positions in, and transactions with, their U.S. affiliates. The foreign direct investment position in the United States—one of the most commonly referenced statistics on FDIUS—measures the value of foreign parents' equity in, and net outstanding loans to, their U.S. affiliates. The reported survey data used to estimate the position are based on book values, but for the last 2 years, BEA has also provided estimates of the position based on both market values and the current cost of replacing affiliates' tangible assets. Balance of payments transactions between parents and affiliates consist of flows of capital (equity, debt, and reinvestment of earnings), income, royalties and license fees, and fees for other private services. Although reported to BEA on a historical cost basis, direct investment income is currently recorded in the U.S. international transactions accounts after adjustment of reported depreciation, depletion, and expensed exploration and development costs to a current, or replacement-cost basis, so that it is consistent with BEA's estimates of the direct investment position on that basis.[3]

U.S. Affiliate Financial and Operating Data

These data cover the overall operations of affiliates rather than just their transactions or positions with foreign parents. Available items include balance sheets and income statements; external financial position; property, plant, and equipment (both stocks and expenditures); employment and employee compensation; research and development expenditures; U.S. merchandise trade; sales of goods and services; ownership of U.S. land; and selected data by State. Financial and operating data are collected on a fully-consolidated domestic (U.S.) basis for U.S. affiliates; they are not collected for foreign parents or ultimate beneficial owners because BEA's authority to collect data does not extend to foreign residents.

The financial and operating data are broader in scope than the direct investment position and balance of payments data because they cover the overall operations of U.S. affiliates rather than just the affiliates' positions and transactions with their foreign parents. For example, a U.S. affiliate's income statement, part of its financial and operating data, covers the total net income of the affiliate, whereas direct investment income as recorded in the U.S. international transactions (balance of payments) accounts includes only the foreign parent's share of that income. Thus, if an affiliate that is 50-percent owned by its foreign parent has net income of $100 in a given period, this entire amount is shown in the affiliate's income statement, but only $50 is included in the U.S. balance of payments as direct investment income. (For an affiliate that is 100-percent owned by its foreign parent, total net income and the foreign parent's share are, of course, the same.) Similarly, total assets, as shown on an affiliate's balance sheet, is a measure of the book value of all assets of the affiliate, however financed, whereas the direct investment position on a historical cost basis reflects only the net book value of the foreign parent's direct claims on the affiliate's assets (that is, the portion of the affiliate's total assets financed by the foreign parent's equity investment in, net loans to, and earnings reinvested in, the U.S. affiliate). Even for a 100-percent-owned affiliate, total assets will typically exceed the direct investment position, often by a substantial amount, because some assets of affiliates are typically financed through sources other than the foreign parent (unaffiliated suppliers or financial institutions, for example) and because the position may be reduced by intercompany loans extended by the affiliate to the parent.

The Surveys

BEA's data collection system on FDIUS is organized around periodic benchmark surveys that collect comprehensive data from the universe of U.S. affiliates of foreign direct investors. New entries to the universe are added via a mandatory, one-time survey of new foreign direct investments in the United States. In addition, existing U.S. affiliates above a certain threshold must report in quarterly and annual sample surveys that are used to update the universe totals collected in the benchmark survey.

Benchmark Survey

The benchmark survey is the foundation of BEA's FDIUS data collection system and is the most comprehensive survey in terms of both coverage and content. The International Investment and Trade in Services Survey Act requires that a benchmark survey be taken at least once every 5 years.[4] The most recent benchmark survey covered 1987; results of the survey were summarized in an article in BEA's monthly magazine, the *Survey of Current Business*, and presented in detail in a separate data publication.[5] The next benchmark survey will cover data for 1992; forms were mailed to respondents in late February 1993.

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[1] For a more detailed description of the various types of data on FDIUS collected by BEA, see A. Quijano, "A Guide to BEA Statistics on Foreign Direct Investment in the United States," in the February 1990 issue of the *Survey of Current Business*.

[2] "Foreign persons" include any foreign individual, branch, partnership, association, associated group, estate, trust, corporation, or other organization, and any foreign government.

[3] Current-cost measures of direct investment income (and of the reinvested earnings component of direct investment capital flows) began to be published in June 1992 for years beginning with 1982. They are available only at an aggregate level; the detailed country-by-industry estimates discussed later continue to be on a historical-cost basis.

Benchmark surveys are intended to cover the universe of U.S. affiliates of foreign direct investors. However, to reduce reporting burden, complete reports must be filed only by U.S. affiliates above a certain minimal exemption level; affiliates below that level account for a sizable percentage of the number of all U.S. affiliates, but for only a negligible percentage of their value.[6]

The benchmark survey collects, in considerable detail, both financial and operating data of U.S. affiliates and data on the direct investment position and related balance of payments flows between U.S. affiliates and their foreign parents. Many data items collected in the benchmark survey are also collected in BEA's annual and quarterly sample surveys; for these items, the benchmark survey value is the basis for estimation of universe values in nonbenchmark years, based on movements in reported sample data. Other data items are collected only in the benchmark survey, because more frequent collection is regarded as either unnecessary or too burdensome. For example, U.S. merchandise exports and imports of U.S. affiliates are collected by broad product group and by country of destination or origin in benchmark surveys, but such product and country detail is not collected annually because of the heavy burden it would impose on reporters.

Less detailed financial and operating data are required of bank affiliates than of other U.S. affiliates, because they must report the data needed for most policy purposes to other U.S. Government agencies. In addition, bank affiliates report less balance of payments data because, in accordance with international guidelines, the direct investment position in a bank affiliate is defined to include only its foreign parent's permanent equity and debt investment in it, and its direct investment flows that enter the balance of payments include only transactions related to such permanent investment. All other transactions and positions—mainly claims and liabilities arising from the parents' and affiliates' normal banking business—are considered portfolio, not direct, investment. They are reported, along with other banking claims and liabilities, in the Treasury International Capital reporting system and are included in the capital account of the U.S. international transactions accounts compiled by BEA.

New Investment Survey

The universe of FDIUS is continuously updated for new affiliates by the new investment survey (BE-13). This mandatory, one-time report must be filed by all U.S. businesses that are newly acquired or established by foreign direct investors and that have total assets greater than $1 million or own 200 or more acres of U.S. land.[7] Each year, the survey results are published and analyzed in the *Survey of Current Business,* usually in May.

The key value measure collected on the new investment survey is the dollar amount of investment outlays—that is, the cost, however financed, to the direct investor of acquiring or establishing the U.S. business. The amount of this total financed directly by the foreign parent group (the foreign parent and its foreign affiliates) is also reported; this information can be used to gauge the impact of new FDIUS on the U.S. balance of payments capital account and the international investment position.

The financial and operating measures collected on the new investment survey include the three items—assets, sales, and net income—used to determine reporting status in the quarterly and annual sample surveys. If the value reported for any of these items in the new investment survey exceeds the exemption level for the corresponding item in the sample surveys, the new affiliate is required to file in those surveys as well. In this way, sample frames are regularly updated to include new investments. An affiliate that falls below the sample survey reporting levels (but still is above the $1 million exemption level of the new investment survey) is nevertheless added to the direct investment universe, and values for it, like those for other small affiliates, are estimated until the affiliate reports in a benchmark survey or grows past the exemption levels for, and reports in, the sample surveys. Other items collected on the new investment survey include data on land ownership and a series of yes/no questions on incentives and services received from State or local governments.

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[4] Because of a one-time postponement granted by Congress in order to synchronize BEA's benchmark surveys of FDIUS with the Census Bureau's quinquennial economic censuses, the interval between the last two benchmark surveys, covering 1980 and 1987, was 7 years rather than 5. This delay facilitated the efforts to produce detailed establishment-level data on FDIUS by linking the two agencies' data sets for 1987.

[5] See "U.S. Affiliates of Foreign Companies: 1987 Benchmark Survey Results," *Survey of Current Business*, 69 (July 1989): 116-139 and U.S. Department of Commerce, Bureau of Economic Analysis, *Foreign Direct Investment in the United States: 1987 Benchmark Survey, Final Results* (Washington, DC: U.S. Government Printing Office, August 1990).

[6] The 1980, 1987, and 1992 benchmark surveys use an exemption level of $1 million of assets, sales, or net income. Affiliates at or below this level must file an exemption claim stating the level of these items. Data for exempt affiliates are tabulated separately and are excluded from tables presenting the benchmark survey results. In the benchmark survey for 1987, exempt affiliates accounted for 34 percent of the number of affiliates in the direct investment universe. However, because only very small affiliates were exempt from reporting, the remaining 66 percent that were required to report accounted for virtually all of the universe in terms of value—99.0 percent of total assets, 99.9 percent of sales, 100.7 percent of net income, and 96.3 percent of acres of U.S. land owned. (The percentage for net income exceeds 100 because affiliates that were exempt from reporting had, in the aggregate, a net loss for the year.)

[7] If the minimum values are not met, an exemption claim must nevertheless be filed. Exempt affiliates are significant in number but negligible in value.

Annual Sample Survey

The annual sample survey of financial and operating data of nonbank U.S. affiliates (BE-15) is conducted in nonbenchmark years. Reports are required of all nonbank affiliates with assets, sales, or net income greater than a given exemption level—currently $10 million. Estimates for smaller affiliates are derived through extrapolation from the most recent benchmark survey and use of information from the new investment survey. Summary survey results and analysis are released annually in a *Survey of Current Business* article; separate data publications provide additional detail.

The annual survey covers many of the same data items on the overall operations of nonbank U.S. affiliates as the quinquennial benchmark surveys—including balance sheets; income statements; merchandise trade; employment and compensation; property, plant, and equipment; and selected detail by State. Together with the benchmark survey, it provides time series for many key financial and operating data items back to 1977. The annual data are also used to derive estimates of gross product originating (value added) in U.S. affiliates, an important measure of affiliates' contribution to U.S. gross domestic product.

Quarterly Balance of Payments Surveys

Quarterly balance of payments surveys (BE-605 and BE-606B) are conducted to update the position and balance of payments flow data collected in the benchmark survey. The sample covers all affiliates with assets, sales, or net income of $20 million or more. Universe estimates of the direct investment position on a historical-cost basis and of most balance of payments capital, income, and services flows are derived by extrapolating forward the universe data reported in the last benchmark survey based on movements in the reported quarterly sample data in subsequent periods.[8] In some cases, information from the new investment survey is used as well. Once these adjustments are made, the estimates are published and analyzed as a part of quarterly articles on U.S. international transactions that appear in the March, June, September, and December issues of the *Survey of Current Business*.[9] Detailed annual estimates of the position are published and analyzed in the June *Survey*, as part of an article on the U.S. international investment position, and additional detail for both annual position and flow estimates is published in the August issue.

Disaggregating the Data

All of BEA's data on FDIUS can be disaggregated by country of ownership and by industry. A few selected items can also be disaggregated by State.

Disaggregation by Country

BEA can disaggregate the data by country in two ways: (1) By country of foreign parent (or other member of the foreign parent group (FPG)) and (2) by country of ultimate beneficial owner (UBO).[10] Because, for a given U.S. affiliate, the country of its foreign parent may not be the same as the country of its UBO, the choice of approach can have a significant effect on the geographical distribution of the published data. For example, for tax or other reasons, many Canadian UBO's own their U.S. affiliates through holding companies located in the Netherlands. Displayed by country of UBO, data for these affiliates would be recorded opposite Canada; displayed by country of foreign parent, they would be recorded opposite the Netherlands.

Most of BEA's published data on the direct investment position and related international capital, income, and services flows are disaggregated by the country of the foreign parent (or other member of the FPG) with whom the U.S. affiliate had positions or transactions.[11] This classification basis is consistent with U.S. balance of payments methodology and international guidelines, both of which call for recording transactions against the country of the foreign person with whom they occur. However, direct investment position and balance of payments flow data can also be displayed by country of UBO, and in recent years a table showing both alternative country classifications of the direct investment position and income flows has been published in the August *Survey of Current Business.*

Because, for most analyses of the overall operations of U.S. affiliates, the country of the UBO—which ultimately owns or controls and, therefore, derives the ultimate benefits from owning or controlling, the affiliate—is considered more important than the country of the foreign parent, BEA generally disaggregates financial and operating data by country of UBO.[12] However, in benchmark survey publications and in annual survey publications beginning with 1988, BEA has disaggregated some financial and operating data by country of foreign parent, primarily for comparison to position and balance of payments flow data that are classified on that basis. Note that, regardless of how the data are disaggregated for purposes of publication, BEA has identified and maintains information on the countries of both foreign parents and UBO's for all U.S. affiliates.

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[8] One item, intercompany debt flows, currently is not extrapolated but is used as reported. Although highly volatile and subject to large revisions, BEA has been unable to identify, and therefore to correct for, any systematic bias in this item.

[9] The adjustments to value the position at current prices are described in J. Steven Landefeld and Ann M. Lawson, "Valuation of the U.S. Net International Investment Position," *Survey of Current Business* 71 (May 1991): 40-49. Adjustments to place direct investment income and capital flows on a current-price basis are described in "U.S. International Transactions," *Survey* 72 (June 1992): 72 & 73.

[10] An affiliate's UBO is that person, proceeding up the affiliate's ownership chain beginning with and including the foreign parent, that is not owned more than 50 percent by another person.

[11] Although most transactions are with the foreign parent, the U.S. affiliate may have debt positions or transactions with other members of the FPG, some of whom may be in countries other than that of the foreign parent. To simplify terminology, BEA often indicates that data are disaggregated "by country of foreign parent," even though the data are, in fact, disaggregated by country of each member of the FPG.

[12] If a given U.S. affiliate has more than one UBO, all the data for that affiliate are shown against the country of the UBO having the largest percentage ownership interest in the affiliate.

Disaggregation by Industry

BEA's methods of disaggregating its data by industry reflect the fact that its data on U.S. affiliates are collected from fully consolidated domestic (U.S.) business enterprises. Data are collected on a consolidated basis for a number of reasons. Much of the data—for example, financial statements and data on transactions with foreign parents—is usefully interpreted, and may be available, only at the enterprise level. Moreover, consolidated reporting reduces reporting burden and eliminates the duplication of intra-firm sales and financial claims in the reported data.

Primarily for industry coding purposes, BEA asks each consolidated U.S. business enterprise to disaggregate its sales and employment by BEA's international surveys industry (ISI) classification codes (roughly equivalent to three-digit Standard Industrial Classification (SIC) codes). Using the data on sales, BEA classifies each affiliate by primary industry, based on the ISI code in which the affiliate's sales are largest. BEA also uses the sales and employment data disaggregated by ISI code (or "by industry of sales") to provide some industry detail for U.S. affiliates below the fully consolidated level. On this basis, an affiliate's sales and employment in secondary industries are shown in those industries, rather than wholly in the affiliate's primary industry.

Disaggregation by State

In its benchmark and annual surveys, BEA asks that a few key items—including employment and the gross book value of property, plant, and equipment (PPE)—be disaggregated by State. (Beginning with 1987, both total and manufacturing employment data are obtained by State, and PPE by State is further subdivided into commercial property and other PPE.) Only a few items are requested by State because of the difficulty that respondents have in providing State detail within the consolidated enterprise. Other than the items mentioned above, BEA does not obtain information on the activity of a U.S. affiliate in a particular State, which may well differ from the industry classification of the fully consolidated enterprise. Detailed industry information at a State level is available only from the linked BEA-Census and BEA-BLS establishment data discussed below.

Legal Authority and Data Access

BEA collects data on FDIUS under authority of the International Investment and Trade in Services Survey Act (P.L. 94-472, as amended).[13] The Survey Act authorizes the conduct of mandatory surveys of FDIUS and requires that the reported data for individual companies be kept confidential. Under the act, data may be used for analytical and statistical purposes only; they cannot be used for purposes of taxation, investigation, or regulation. Access to the data is limited to officials and employees of Government agencies specifically designated by the President to perform functions under the act. In addition, under the Foreign Direct Investment and International Financial Data Improvements Act of 1990, the Bureau of the Census, Bureau of Labor Statistics, General Accounting Office, and Secretary of Commerce (or their designee) are granted limited access to the data for certain statistical purposes.

Non-Government persons or entities may obtain access to the data only in the capacity of experts, consultants, or contractors whose services are procured by BEA, usually on a temporary or intermittent basis, for purposes of carrying out projects under the Survey Act—for example, researchers or members of advisory groups who provide expert advice or assistance to BEA or employees of private contractors performing mailing, data processing, or administrative services on behalf of BEA. All such persons or entities are subject to the same confidentiality requirements as are the regular employees of BEA or other Government agencies performing functions under the Act.

BEA places the highest priority on protecting the integrity of the confidential company data it collects, because ensuring confidentiality is essential to securing the cooperation of respondents and maintaining the integrity of the data collection system. While broad access to confidential company data would jeopardize the integrity of the statistical system, these restricted exchanges of information and limited access to the data will improve data quality and analysis without compromising that integrity.

Linked Establishment Data

Enterprise based data consolidate all of a company's plants or locations into a single industry—the one that accounts for the largest share of the company's activity. But because U.S. affiliates are often highly diversified, they frequently have activities in industries other than the one in which they are classified on this basis.

After the Foreign Direct Investment and International Financial Data Improvements Act of 1990 was enacted, BEA and Census and BEA and BLS began to identify data on individual foreign-owned U.S. establishments in the Census and BLS data bases. Initial results from both projects were released in mid-1992. As a result, there has been a major increase in the detail available on foreign-owned firms, both by industry and location.

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[13] The act, originally titled the International Investment Survey Act of 1976, was amended by the Trade and Tariff Act of 1984 (P.L. 98-573) to provide for the mandatory collection of data on international services trade, and by the Foreign Direct Investment and International Financial Data Improvements Act of 1990 (P.L. 101-533) to facilitate sharing of data with other U.S. Government statistical agencies.

Because they more precisely measure activities in particular industries and are more detailed than enterprise data, the establishment data are especially useful for analyzing foreign-owned companies' activities in specific industries. On an establishment basis, data are collected for each plant or location of an enterprise, and are classified by industry according to the major activity of that plant or location.

Establishment data also provide industry information in greater detail. In the BEA data, enterprises are classified only at a level that roughly approximates the Standard Industrial Classification (SIC) three-digit level, or 135 industries. Because individual establishments are less diversified than enterprises, they can be meaningfully classified at a more detailed level. The new establishment data are classified at the SIC four-digit level, which includes over 800 industries.

The establishment-level data also show much more detailed industry data within individual States than has been available in the past. Previously, data by State were only published for the major industry divisions and a few two-digit industries. Now, the maximum level of industry detail available by State is at the four-digit SIC level.

It should be noted that, although the BEA-Census and the BEA-BLS link projects both provide highly detailed data at the establishment level, the data from the two projects differ somewhat in coverage and classification by industry, in timing, and in definition. In addition, there are differences in coverage, definition, measurement, and classification between these establishment-level data sets and BEA's enterprise-level data on FDIUS.[14]

Data from the BEA-Census Link

The initial establishment data on FDIUS from the BEA-Census link project cover the number, employment, payroll, and shipments or sales of the establishments of U.S. affiliates of foreign companies in 1987. The data were obtained by linking BEA company, or enterprise, level data on foreign direct investment with Census Bureau plant, or establishment, level data for all U.S. companies. In the link, BEA's enterprise-level information on foreign ownership was used to identify and create a separate data set for those establishments in the Census Bureau data—essentially, data from the Economic Censuses and the County Business Patterns series—that are foreign-owned. The year 1987 was selected because it was a benchmark, or census, year for both the BEA data on U.S. affiliates and the Census Bureau data on all U.S. businesses.

In general, the Census Bureau data cover establishments with employees subject to the Federal Insurance Contributions Act (FICA). Data for establishments with employees that are exempt from FICA, such as those in agricultural production of crops and livestock and railroad transportation, are excluded. Estimates are provided for the 50 States and the District of Columbia.

The results of the BEA-Census link project were first disseminated in 1992.[15] An article analyzing the BEA-Census link data for 1987 appeared in the October 1992 issue of the *Survey of Current Business.* (See also chapter 5 of this report.) In 1993, expanded information will be published for 1989 and 1990 on the manufacturing establishments of U.S. affiliates. This information will include most of the items covered by the Census Bureau's Annual Survey of Manufactures; among the major items available are value added, hourly wages of production workers, and capital expenditures. Information on nonmanufacturing establishments will not be published again until data for the next census year, 1992, become available.

Data from the BEA-BLS Link

The methodology employed in the BEA-BLS link project was similar to that used in the BEA-Census link. Specifically, data from the BEA benchmark and annual surveys of FDIUS were used to identify foreign-owned establishments in the BLS Covered Employment and Wages (ES-202) Program data set. Data from the ES-202 program, which is a Federal-State cooperative program, are a byproduct of State Unemployment Insurance (UI) programs and are derived from quarterly tax reports submitted to State Employment Security Agencies by employers subject to State UI laws and by Federal agencies subject to the Unemployment Compensation for Federal Employees (UCFE) program. The ES-202 data set includes those employees who are covered by UI or UCFE programs—about 98 percent of total wage and salary civilian employment in 1990. The data set excludes most railroad employees and several types of employees of entities outside the business sector or unlikely to be

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[14] Differences between the BEA enterprise data and the BEA-Census link data are discussed in the technical note to chapter 5 of this report. Similar differences exist between the BEA enterprise data and the BEA-BLS link data.

[14] Differences between the BEA enterprise data and the BEA-Census link data are discussed in the technical note to chapter 5 of this report. Similar differences exist between the BEA enterprise data and the BEA-BLS link data.

[15] See U.S. Department of Commerce, Bureau of Economic Analysis and Bureau of the Census, *Foreign Direct Investment in the United States: Establishment Data for 1987* (Washington, DC: U.S. Government Printing Office, June 1992).

foreign-owned.[16] Geographic coverage of the data includes the 50 States, the District of Columbia, Puerto Rico, and the Virgin Islands; however, only data for the 50 States and the District of Columbia are published. The data are coded by industry according to the 1987 SIC manual. During the past year, BLS establishment data and BEA enterprise data for 1989 and 1990 were linked and the linked data were published in two press releases, one for each year.[17]

Data Collected by Other Federal Agencies

Although the BEA enterprise data, supplemented by the Census Bureau and BLS establishment data from the link projects, are the principal U.S. Government sources of data on FDIUS, several other agencies also provide information about a particular aspect of FDIUS. The following sources provide data that are specifically on FDIUS; data sets that include foreign-owned firms or establishments but do not separately identify them are not included, nor is any information that is classified and not publicly available, even in aggregate form.[18]

International Trade Administration

The International Trade Administration (ITA) of the Department of Commerce compiles information on specific foreign direct investment transactions using publicly available sources, such as newspapers and business trade publications. ITA disseminates this information by means of an annual publication.[19] The data, like BEA's data on new foreign direct investments, cover establishments and acquisitions of U.S. affiliates. They also include data on plant expansions, equity increases, and other transactions not specifically identified in BEA's data. Summary totals of numbers of transactions are provided but, because of the diversity of the transactions included and lack of value information for some transactions, no summary totals are provided for the values involved. Because of its exclusive use of publicly available sources, ITA is able to list company names and give data for individual transactions in its reports. Transactions are listed and sorted by SIC code, by country of foreign investor, and by State.

Department of Agriculture

The U.S. Department of Agriculture compiles information on foreign direct investment in U.S. agricultural land. The information provided includes, among other variables, the location of the land, parcel size, and method of acquisition. State-level statistics show the number and share of foreign-owned acres. Information on the country of the foreign investor is available at the county level.

The Agriculture Department data are collected under the Agricultural Foreign Investment Disclosure Act of 1978. Reporting is required for land that is being used for agriculture, forestry, or timber production or that was cultivated within 5 years of the time of acquisition by a foreign person. For purposes of reporting, "foreign persons" include individuals who are not U.S. citizens, permanent residents holding "green cards," or citizens of the Northern Mariana Islands or the Trust Territories of the Pacific Islands; foreign persons also include U.S. corporations that are owned 10 percent or more by a foreign person or group or that are owned 50 percent or more by a group of foreign persons not acting in concert. Data are reported to the Agricultural Stabilization and Conservation Service (ASCS), and the reported data on individual investments are considered public information, available for inspection at Federal, State, and local ASCS offices. The data collected are summarized in publications prepared by USDA's Economic Research Service.

Department of Energy

Although it does not conduct a formal survey of FDIUS of its own, the Department of Energy compiles information on foreign direct investment in energy-related businesses in the United States. The Department gathers information from industry contacts and from a variety of outside sources, including the Department of Commerce, company annual reports, and public disclosures of investment transactions. The information is disseminated in an annual report, *Profiles of Foreign Direct Investment in U.S. Energy*. The report analyzes foreign direct investment in U.S. energy-related businesses both in the context of the U.S. international transactions accounts and from a financial reporting perspective. The report presents a number of comparisons that relate the transactions and operations of U.S. affiliates in energy industries to total FDIUS and to the operations of all U.S. firms in these industries.

Department of Treasury

The major Treasury Department data on FDIUS are from the Internal Revenue Service (IRS). The Statistics of Income Division (SOI) of the IRS conducts a number of studies dealing with the activities of foreign persons within the United States. Data and analysis are published periodically in the *Compendium of Studies of International Income and Taxes* and in the *Statistics of Income Bulletin.*

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[16] The excluded employees include, in addition to railroad employees, most agricultural workers on small farms, most domestic workers, most student workers at schools, employees of certain small nonprofit organizations, most self-employed individuals, and all unpaid family members.

[17] See U.S. Department of Labor press releases USDL 92-473 (July 29, 1992) and USDL 92-663 (October 20, 1992).

[18] Some of the information that follows was drawn from U.S. General Accounting Office, "Federal Data Collection on Foreign Direct Investment in the United States," GAO report GAO/NSIAD-90-25BR (Washington, DC: October 1989).

[19] The most recent publication is U.S. Department of Commerce, International Trade Administration, *Foreign Direct Investment in the United States: 1989 Transactions* (Washington, DC: June 1991).

One SOI study, conducted on an annual basis, covers domestic corporations "controlled" by foreign persons. (For purposes of the SOI studies, "control" is considered to exist if the foreign person owns at least 50 percent of the stock of the domestic corporation.) Questions on the 1120 series of tax forms that domestic corporations file allow the IRS to estimate the aggregate value of several data items for these corporations, including total assets, total receipts, net income, and taxes. Data are tabulated by country of foreign person and by industry of the domestic corporation. Because corporate tax returns of foreign corporations' U.S. subsidiaries are generally filed with the IRS at a much more deconsolidated level than is true of U.S. affiliates' reports to BEA and because of other differences, such as in timing and in the foreign ownership cutoffs used for reporting, the IRS data on domestic corporations controlled by foreign persons cannot readily be compared with the BEA data on FDIUS. This is particularly true of items, such as assets and sales, for which intra-company transactions and positions are significant. Such items may be duplicated in the IRS data, but not in the more consolidated BEA data.

Another IRS study that uses tax returns covers foreign corporations with income from the conduct of unincorporated businesses in the United States. Total receipts, net income, and total U.S. income tax after tax credits are a few of the data items estimated. Data are tabulated by country of foreign corporation and by industry of the U.S. business.

A third SOI study directly related to FDIUS covers transactions with related foreign persons by (1) foreign controlled domestic corporations and (2) unincorporated U.S. operations of foreign corporations (Form 5472). Foreign-controlled domestic corporations and the foreign corporations' unincorporated U.S. operations file a form for each related foreign person with which they have certain transactions. Data are tabulated by country of the related foreign person and by industry of the foreign-controlled domestic corporation or of the foreign corporation's unincorporated U.S. operation.

Federal Reserve System

The Federal Reserve System collects a substantial amount of information associated with the U.S. operations of foreign banks. These operations may take various organizational forms, including subsidiaries, branches, and agencies. Some aggregate data on them are published in the *Federal Reserve Bulletin* and the *Annual Statistical Digest.* Some additional unpublished aggregate data and listings of individual bank data are also available upon request. Data provided by the Federal Reserve System incorporate certain information on Federally-licensed U.S. branches of foreign banks that is collected by the Comptroller of the Currency.

One of the Federal Reserve sources of information on FDIUS is the *Annual Report of Foreign Banking Organizations.* This report includes financial statements of subsidiaries, branches, and agencies of foreign banking organizations operating in the United States. The Federal Reserve System also collects data on quarterly reports filed by the U.S. offices of foreign banks.

Other Federal Agencies

Although the SEC does not maintain any statistics specifically on FDIUS, the extent of foreign ownership of a given publicly held firm can at times be ascertained through the disclosure forms filed with the SEC by the firm and its shareholders. This information is available to the public, but at this time can only be obtained by examining the filings of each company separately.

Several other Federal agencies collect information that is in some way related to FDIUS, although ownership and other requirements for reporting may vary. Such collection usually is limited by specific regulatory requirements and typically is not organized to allow systematic analysis of FDIUS. The Federal Communications Commission collects information on foreign investment from parties applying for communications licenses and authorizations, but it can only be obtained by examining individual filings. The Federal Deposit Insurance Corporation maintains information on individual filings of financial and operating data of certain FDIC-insured State banks, including information on the country of citizenship of holders of 5 percent or more of the equity; this information is publicly available, but aggregate data compiled on the basis of foreign ownership are not.[20] Also, the published results of an annual FDIC survey on deposits held by FDIC-insured banks show data for individual domestic (U.S.) branches of foreign banks.

Some agencies are unable to reveal information about individual filings and also do not publish statistical aggregates. The Federal Trade Commission and the Department of Justice collect some information on foreign investment as part of the examination of potential antitrust cases involving mergers and acquisitions, but information contained in the filings is held confidential. Notifications are filed with the Committee on Foreign Investment in the United States, chaired by the Treasury Department, on foreign firms' proposed mergers, acquisitions, and takeovers that may have national security implications; while these notifications pertain directly to FDIUS, they too are held confidential and are not disseminated to the public, even in aggregate form.

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[20] These data cover banks that have 500 or more shareholders, have assets of more than $1 million, and do not belong to the Federal Reserve System.

APPENDIX A

Glossary of Foreign Direct Investment Terms

Following are important terms describing foreign direct investment and the operation of foreign-owned affiliates in the United States as used in this report and by the U.S. Department of Commerce, Bureau of Economic Analysis (BEA).

Benchmark year

The year for which BEA conducts a benchmark survey, or census, of foreign direct investment in the United States. Benchmark surveys are normally taken once every five years. They are BEA's most comprehensive surveys of FDI, both in terms of the amount of detail collected and number of firms covered. They are designed to cover the universe of U.S. affiliates in value terms. For example, in the 1987 benchmark survey, all U.S. affiliates of foreign persons were required to report operating, financial, balance of payments, and direct investment position data if the affiliate's total assets, sales, or net income were at least $1 million or if the affiliate owned 200 or more acres of U.S. land.

Although the affiliates required to report account for only 66 percent of the total number of affiliates in the universe, they accounted for 99.0 percent of the assets, 99.9 percent of the sales, 100.7 percent of the net income, and 96.3 percent of the acres of U.S. land owned by all U.S. affiliates. (The percentage for net income exceeded 100.0 percent because exempt affiliates had, in the aggregate, a net loss for the year.)

BEA's quarterly and annual direct investment surveys are less comprehensive and cover only a sample of companies. Reporting in the annual survey is limited to affiliates with more than $10 million in total assets, sales, or net income (positive or negative), and fewer operating and financial details are required. Reporting in the quarterly survey is limited to affiliates with more than $20 million in assets, sales, or net income. Data from the sample surveys are linked to data from the most recent benchmark survey and, for most items, are expanded to universe levels.

In order to promote consistency and comparability between the enterprise data collected by BEA and the establishment data collected by the Census Bureau and to enhance their analytical usefulness, the timing of benchmark surveys of foreign direct investment in the United States has been shifted to coincide with the economic censuses conducted by the Census Bureau; the first such year was 1987.

Enterprise and Establishment

The data reported to BEA by U.S. affiliates are for the fully consolidated affiliate enterprise. In many instances, an affiliate will comprise two or more establishments or plants. Data reported to some other agencies on the operations of U.S. companies may be for the operations of individual establishments within the enterprise.

For 1987, BEA and the Census Bureau have obtained establishment data for U.S. affiliates by linking BEA company-, or enterprise-, level data on foreign direct investment with the Census Bureau plant-, or establishment-, level data for all U.S. companies. BEA's data have also been linked with Bureau of Labor Statistics plant-, or establishment-, level data for all companies for 1989 and 1990.

BEA's enterprise data are needed for analyzing the overall significance of, and trends in, direct investment and for compiling the U.S. international transactions accounts, the international investment position of the United States, and the U.S. national income and product accounts. The establishment data are needed for analyzing the activities and importance of U.S. affiliates in specific industries.

Foreign Direct Investment in the United States (FDIUS)

Foreign investment in an enterprise in the United States is classified as foreign direct investment when ownership or control, directly or indirectly, by a foreign person amounts to 10 percent or more of the voting securities of an incorporated U.S. business enterprise, or an equivalent interest in an unincorporated U.S. business enterprise. Such an enterprise is referred to as a foreign-owned U.S. affiliate.

The flows of FDI during a given period are recorded in the U.S. balance-of-payments capital account, and the accumulated stock of FDI is recorded in the U.S. international investment position at the end of a given period. FDI capital flows cover investment in both new and existing

U.S. affiliates by their foreign parents and other members of their foreign parent groups (see definition below).

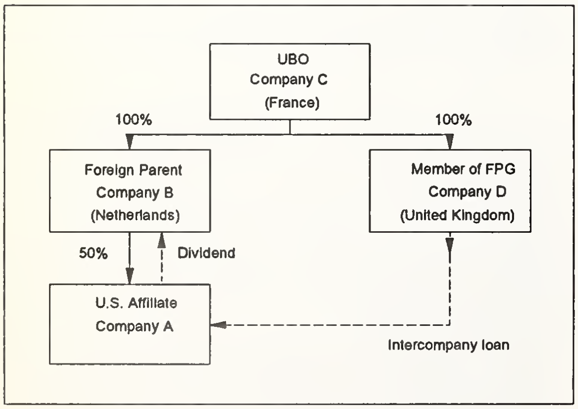
Like other items in the balance of payments, direct investment capital flows may not always reflect actual flows of funds across national borders. For example, foreign parents' shares of the affiliates' reinvested earnings are included as a direct investment capital inflow, with an offsetting amount recorded as an income payment (outflow)in the current account, even though the funds never actually crossed national borders.

FDI positions are generally smaller than the total assets of U.S. affiliates, because they only cover positions held by foreign parents and other members of the foreign parent group, rather than the total assets held by all investors in the affiliate, including U.S. residents. For example, unlike the FDI position in an affiliate, which equals the sum of the foreign parent group's equity in, and net outstanding loans to, its U.S. affiliate, the U.S. affiliate's total assets are equal to the sum of (1) total owners' equity in the affiliate held both by members of the foreign parent group and by all other U.S. persons, and (2) total liabilities owed by the affiliate both to members of the foreign parent group and to all U.S. persons.

Outlays for new foreign direct investments in the United States consist of outlays to acquire or establish U.S. affiliates, regardless of whether the invested funds are raised in the United States or abroad. If the funds are raised in the United States, no capital inflow occurs. If the funds are raised abroad by a member of the foreign parent group and used to finance the U.S. acquisition or establishment of an affiliate, a direct investment capital inflow occurs.

Foreign-Owned Affiliate in the U.S.

A business in the United States in which there is sufficient foreign investment to be classified as direct foreign investment. To determine fully the foreign owners of a U.S. affiliate, three entities must be identified: the foreign parent, the ultimate beneficial owner, and the foreign parent group. All of these entities are "persons" in the broad sense: thus, they may be individuals; business enterprises; governments; religious, charitable, and other nonprofit organizations; estates and trusts; and associated groups.



A U.S. affiliate may have an ultimate beneficial owner (UBO) that is not the immediate foreign parent; moreover, the affiliate may have several ownership chains above it, if it is owned at least 10 percent by more than one foreign person. In such cases, the affiliate may have more than one foreign parent, UBO, and foreign parent group.

Foreign Parent

The first foreign person outside the United States in an affiliate's ownership chain that has direct investment in the affiliate.

Foreign Parent Group (FPG)

In many cases, a U.S. affiliate is only one unit in a global network of corporate affiliations. Thus, a U.S. affiliate may have a foreign parent who, in turn, is owned by a direct investor of a third country or who has affiliates in other countries.

The foreign parent group consists of (1) the foreign parent, (2) any foreign person, proceeding up the foreign parent's ownership chain, that owns more than 50 percent of the person below it, up to and including the UBO, and (3) any foreign person, proceeding down the ownership chain(s) of each of these members, that is owned more than 50 percent by the person above it. In the U.S. balance of payments, transactions of U.S. affiliates with all members of the FPG, not only transactions with foreign parents, are shown as transactions with "affiliated" foreigners. Also, equity and debt positions in the affiliate held by all members of the foreign parent group are included in the foreign direct investment position in the United States.

The following diagram illustrates relationships and transactions that could occur between a U.S. affiliate and members of the FPG. Company A is a U.S. chemical company owned 50 percent by Company B, a Netherlands finance affiliate, which is owned 100 percent by Company C, a French manufacturing company. No single investor has more than 50 percent ownership of Company C. Like Company B, Company D, a British company, is owned 100 percent by Company C. Therefore, Company A's foreign parent is Company B; Company A's UBO is Company C. Company A's FPG consists of Companies B,C, and D. Company D is in the FPG because, even though it does not have an ownership interest in the U.S. affiliate, it is more than 50 percent owned by Company C, the UBO.

If Company A receives a loan from Company D, the transaction would be treated as a direct investment transaction in the balance of payments accounts, because Company D is part of the FPG. The flow would be recorded as an intercompany debt inflow from the United Kingdom.

If Company A pays dividends to Company B, the transaction would be recorded as a direct investment income payment between the United States and the Netherlands in the U.S. balance of payments because the dividends are paid directly to the foreign parent (not the UBO). If the Netherlands company (Company B) then passes on the dividend to the French UBO (Company C), this transaction would not be a U.S.-to-foreign transaction; it is a foreign-to-foreign transaction and as such is not recorded in the U.S. balance of payments. (It would, however, be recorded in the balance of payments accounts of France and the Netherlands).

The direct investment position of both Company B and Company D are equal to the book value of their cumulative debt or equity transactions with Company A over time, and are calculated at yearend. For Company B, the position is equal to its equity (including reinvested earnings) in Company A plus any net outstanding loans by it to Company A. Company D has an investment position with Company A equal to the remaining balance of the loan. The position of Company C in Company A is zero because it has no direct equity interest in Company A and has made no loans to Company A.

Industry of Affiliate

Data on the operations of U.S. affiliates owned by foreign investors are classified in BEA data both in terms of the "industry of affiliate" and the "industry of sales".

Classification of an affiliate by **"industry of affiliate"** is based on a three-stage procedure: First, the major industry group accounting for the largest percentage of its sales is determined. The major industry goups are: (a) agriculture, forestry, and fishing, (b) mining, (c) petroleum, (d) construction, (e) manufacturing, (f) transportation, communication, and public utilities, (g) wholesale trade, (h) retail trade, (i) finance, insurance, and real estate, and (j) services. Second, within the group the two-digit International Surveys Industry (ISI) in which sales are largest is determined. Third, within the two-digit industry the three-digit ISI industry in which sales are largest is determined. This procedure is designed to avoid assigning an affiliate to a two-digit subindustry that is outside its major industry, or a three-digit subindustry outside its two-digit industry.

When classified by **"industry of sales,"** affiliate sales and employment data are shown not only for the affiliate's primary industry, but also for its associated secondary industries. This classification method roughly approximates the distribution that would result if the data were reported and classified by industry of establishment.

Nonbank Affiliate

An affiliate classified in an industry other than banking in the ISI coding system.

Ultimate Beneficial Owner (UBO) of an Affiliate

The "person" proceeding up the U.S. affiliate's ownership chain, beginning with and including the foreign parent, that is not owned more than 50 percent by another person. The UBO consists only of the ultimate owner; other affiliated persons are excluded. If the foreign parent is not owned more than 50 percent by another person, the foreign parent and the UBO are the same. The UBO, unlike a foreign parent, may be a U.S. person.

APPENDIX B

Survey of the Analytical Literature on Foreign Direct Investment in the United States, 1987-1992

*by John R. Farra**

The following is a descriptive survey of selected literature published since 1987 that analyzes the economic issues relating to foreign direct investment in the United States (FDIUS) and a more extensive list of references on this subject. The survey does not include the large number of articles published in the monthly *Survey of Current Business* by the Department of Commerce's Bureau of Economic Analysis, and reports by the Department's International Trade Administration. This survey is not intended to reflect U.S. Department of Commerce policy.

The survey is organized in terms of the main analytical issues relating to FDIUS in this field and the principal authors writing on them. Pertinent issues on which no material was found are so noted. References to authors are by last name and year of publication. A list of references with full citations is attached.

The discussion is organized into four sections. The first section focuses on the issues relating to the effects of FDIUS on the U.S. economy in the areas of technology, trade, and employment. The second section addresses issues relating to the motives for, and determinants of, FDIUS. The third section examines issues relating to regulation of FDIUS. The final section examines issues relating to FDIUS in three specific industries--autos, real estate, and banking. The following lists some of the most apparent issues covered in each of the survey sections.

I. Motives for FDIUS
  A. U.S. Market
    1. Large size of the U.S. market.
  B. Trade Barriers
    1. Magnitude of trade barriers as FDIUS motive.
    2. FDIUS to preserve or increase market share.
    3. Characteristics of FDIUS taken in response to trade barriers.
  C. Taxation
    1. Effect on rate of return of FDIUS.
    2. Tax rates that attract FDIUS.
    3. Significance of tax rates attracting FDIUS.
  D. Exchange Rates
    1. Effects of exchange rate fluctuations on FDIUS.
    2. Effects of exchange rate risk on FDIUS.

II. Restrictions on FDIUS
  A. Threat to economic security
    1. Effect of FDIUS on economic sovereignty.
    2. Economic stability brought by FDIUS.
  B. Threat to Military Security
    1. FDIUS technology controls for U.S. military security.
    2. Government regulation of FDIUS in defense industry.

III. Effects on the U.S. Economy
  A. Technology Transfer
    1. FDIUS causes technology outflow.
    2. FDIUS causes technology inflow.
    3. Japanese FDIUS creates technology inflow.
    4. Organizational and management skills inflow.
  B. Trade Balance
    1. Does FDIUS effect the U.S. trade balance level?
    2. Input sourcing and internationalization of the production process.
    3. The effect of foreign acquisitions on trade balance.
    4. Does it matter?
  C. Employment
    1. Effects of FDIUS on employment level.
    2. FDIUS effects on job quality.
    3. Relationship between FDIUS and unions.

IV. Specific Industries
  A. Automobiles
    1. Effect of VERs on FDIUS.
    2. Domestic content debate.
    3. FDIUS in the auto parts industry.
  B. Real Estate
    1. Attraction of U.S. real estate.
    2. Effects of FDIUS on real estate market.
  C. Banking
    1. Clientele of foreign-owned U.S. banks.
    2. Cost of capital as motive.

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I. Motives for FDIUS

According to Horstmann and Markusen (1989), it is widely held that the general motivation for FDI is based on the theory of the multinational enterprise and the "firm-specific asset." They liken the "firm specific asset" to a public good which multinationals can costlessly supply to additional plants, leading to the efficiency of multi-plant production. Foreign direct investment consists of supplying these "firm specific assets" to foreign operations in exchange for repatriated earnings.

The literature also frequently discusses more specific motives for foreign firms to engage in FDIUS. Often, their decision is not influenced by just one factor, but is based on a synthesis of several factors. For earlier and broader sources on FDI motives, see Appendix F in the International Trade Administration's International Direct Investment: Global Trends and the U.S. Role (1988).

A. The U.S. Market

Several key aspects of the U.S. market attract FDI. Anderson (1988) sums them up in one sentence: "the United States has a very large and growing market, a stable economy, a strong commitment to free enterprise and private property rights, military security, excellent capital markets, freedom for foreign owners to repatriate their capital earnings, and ample supplies of skilled labor and raw materials."

Chernotsky (1987) emphasizes the importance of investing in the U.S. market to Japan. Japan already relied upon the U.S. for more than one-fourth of its exports. With Japan's deteriorating labor market and high labor costs relative to those in the United States, FDIUS equalizes production costs and enables Japan to maintain accessibility to, and competitiveness in, the U.S. market. The same argument can be made for European firms investing here.

Yoshida (1987) also explains the benefits to Japanese firms of accessing the U.S. market through FDIUS rather than through trade. For large firms, manufacturing in the United States offers new flexibility, and efficiency, in directly transferring their products, processes and management technologies to subsidiaries. For smaller firms, U.S. operations facilitate the flow of goods to the U.S. market, helping to increase market presence.

For both the small or large firm, Yoshida also points to locational advantages of FDIUS that are essential for expanding market share. The main advantage is closer customer relations that facilitate the quick direct market stimuli to product and technology development necessary to service the constantly changing needs of customers. This attention to customer needs cannot be as readily accomplished through exports to the U.S. market.

B. Trade Barriers

Anderson (1988) and Salvatore (1991) point out that trade barriers are effective means to exclude foreign-produced goods and services from a domestic market. Thus, FDIUS is a means for a multinational to circumvent these barriers in an effort to preserve market share. Yoshida (1987) finds, in a statistical analysis of Japanese FDIUS, that trade barriers do play a major role in the decision to invest abroad. Other researchers, for instance Ray (1991), find no consistent evidence that FDIUS is related to existing protectionist measures faced by foreign producers.

Bhagwati, Dinopoulos, and Wong (1992) focus on a second form of FDIUS which they call "quid pro quo" investment. This form of FDIUS differs from the "defensive" FDIUS referred to by Salvatore and Anderson in that it is a *prohibitive* measure to avert protectionist sentiment or backlash rather than a *reactionary* measure to preserve market share. Bhagwati, Dinopoulos, and Wong depict this "quid pro quo" FDIUS as "overinvesting" in one period so as to maximize profits in subsequent periods.

Gittelman and Dunning (1992) point out that where FDIUS is used to counter trade barriers and to maintain pre-existing market shares, it is likely to be concentrated in sectors where foreign firms already have strong competitive advantages to produce at home. There is little incentive in such instances for parent firms to engage in joint ventures or acquire existing assets. Rather, their typical investments are green-field "screwdriver" factories which depend on the parent company for decision-making, inputs, and specifications. Gittelman and Dunning find that the experience of Japan in the early 1980's supported their thesis.

Salvatore (1991) also finds a significant correlation between increases in the number of U.S. non-tariff-barriers and increased inflow of FDI in U.S. manufacturing.

C. Taxation

A number of important FDI issues involve the relation between the U.S. tax structure and the amount of FDIUS. Ott (1989) points out that relatively higher rates of returns in the United States than in other countries is a significant determinant of FDIUS. Tolchin and Tolchin (1988) and Makin (1988) echoes this sentiment, stressing the importance of profits in the foreign investment decision.

Tax rates are a major factor in determining after-tax rates of return. In support of Makin's and the Tolchins' point, Ott cites Poole's reference to Europe's high marginal tax rates as incentive for shifting production from Europe to the United States.

Nevertheless, the literature is unclear on the extent that differences in national tax rates affect FDIUS. Young (1988) uses an econometric model to estimate the effects of U.S. domestic taxes on rates of return and, thus, on FDIUS. He follows Hartman's differentiation between "mature" firms and "immature" firms. He argues that "mature" firms have a sufficient amount of retained earnings to meet their investment needs, whereas "immature" firms must generate capital through increases in equity or intercompany loans to fund their foreign investment. Thus, "immature firms" must, in effect, transfer new funds to their affiliate to initiate their FDIUS and, therefore, must consider both their home country tax and the U.S. taxes applicable to U.S.-source income in case they repatriate their earnings in the near future, whereas these taxes play no role in the "mature" firm's decision to invest.

Young finds that FDIUS by "mature" firms is sensitive to changes in taxes while FDIUS by "immature" firms is not. He also concludes that the welfare effect of tax changes is moderate because tax revenue derived from FDIUS is relatively insensitive to the tax rate on foreigners.

Murthy (1988) refutes Young's findings. Using the same formula as Young, Murthy finds that FDIUS by "immature" firms is clearly sensitive to the tax rate, and FDIUS by "mature" firms is significantly more sensitive to U.S. tax rates than Young found. Moreover, Murthy concludes that the welfare loss from a tax increase on FDIUS is much more significant than Young estimates.

Some researchers, such as Scholes and Wolfson (1990), argue that the 1986 Tax Reform Act provided a strong incentive for FDIUS by decreasing the relative tax liability of foreign firms compared with U.S.-owned firms. Alan Auerbach and Kevin Hassett (1991), however, claim that the distinct treatment of takeovers by the 1986 Tax Reform Act refutes the relationship between FDIUS and the 1986 Tax Reform Act that Scholes and Wolfson theorize.

D. Effect of Exchange Rate Fluctuations on FDIUS

Froot and Stein (1991) argues against the premise that there is no relationship between exchange rate changes or levels and FDI. That premise assumes a high level of capital mobility that allows investors to borrow at the same opportunity cost and, therefore, with the same purchasing power to acquire or establish affiliates in a given country. Thus, an appreciation of the yen gives no purchasing power advantage to Japanese investors in the U.S. market.

However, Froot and Stein argue to the contrary that exchange rate changes have a wealth effect that shifts the demand for investment. They show that a depreciation of the dollar increases the relative wealth of foreign investors and their demand to invest abroad. Depreciation of the dollar allows foreign investors to outbid American investors, making the exchange rate a major determinant of FDI. David Cushman (1988) finds empirical evidence to support Froot and Stein.

Several other authors also support the argument that exchange rates affect FDIUS. Yoshida (1987) finds that the appreciation of the yen lowered initial capital requirements and production costs of Japanese firms relative to U.S. firms. These shifts, in turn, influenced both the decision to invest in America, as well as the allocation of production between Japanese and American plants.

Gittelman and Dunning (1992) find that appreciation of the yen in 1985 significantly undermined Japan's ability to export to the United States. They conclude, therefore, that their only option to preserve market share was to shift to a FDIUS strategy.

Anderson (1988) concentrates on the effects of the exchange rate on wages. He notes that the depreciation of the dollar since 1985 has lowered U.S. wage rates relative to foreign wage rates. This movement made it more difficult for foreign produced goods to be competitive in America, lending increased incentive for FDI in the U.S.

In their study of the foreign banking presence in the United States, Hultman and McGee (1989) also find a strong correlation between dollar exchange rate fluctuations and FDIUS. They find, however, that in the banking industry the correlation between the two was strongly positive as opposed to the usually inverse relationship. They conclude that this reflects the unique concern of foreign investors in the banking industry with future profits anticipated through appreciation of dollar denominated assets instead of the initial U.S. capital cost of acquiring a U.S. affiliate.

Unlike some researchers, Bailey and Tavlas find only an ambiguous relationship between exchange rate fluctuations and FDIUS. Specifically, they note that the commitment to invest abroad is based on long-run expectations, although the timing of FDI flows may reflect short-run fluctuations in the exchange rate. Ray (1991) confirms that FDIUS is positively related to the exchange rate, but that foreigners do not invest in the U.S. simply to take advantage of a cheap dollar.

Foreign exchange risk and FDIUS are additional aspects to the exchange rate issue. Cushman examines the relation of exchange risk to the choice between direct exporting to the United States versus FDIUS. Although Cushman admits that the effects of expected appreciation of real foreign currency and of real exchange risk are usually ambiguous, he finds empirical evidence that at least multinational firms are more likely to substitute FDIUS for exports when exchange risk increases.

Ott (1989) supports Cushman's reasoning that multinationals opt for FDIUS to protect against exchange rate risk. He argues that such firms prefer FDIUS because holding assets denominated in foreign currencies is an effective hedge against exchange risk. Ott adds that FDI reduces the burden of exchange risk on production costs and market sales prices by spreading production across several countries.

Sercu and Vanhulle's (1992) findings appear to contradict those of Cushman. They find that the value of a foreign parent's manufacturing plant rises with exchange rate volatility. As a corollary to these findings, Sercu and Vanhulle assert that, in the presence of exchange risk, a foreign parent's exporting strategy seems to be more valuable than FDI.

II. Restrictions on FDI

Concern with the rapid rise of FDIUS in the 1980's has sparked efforts to restrict it. There are two key sources of concern: U.S. economic sovereignty and U.S. national defense as it relates to technological capability. FDIUS by Japanese firms has been a frequent focus of this debate. Makin (1988) attributes this to three reasons: first, the rapid rise in the U.S. international debt position; second, the relatively rapid and highly visible jump in Japanese FDIUS since 1985; and third, America is tiring of the "special relationship" between the two countries that allows Japan to concentrate on economic growth while the United States bears a disproportionate military security burden.

A. Economic Security

The perceived threat of FDIUS--as Tolchin (1988), Prestowitz (1990), and many other researchers find--is that foreign firms are buying-up U.S. vital economic interests. FDIUS, according to Tolchin, threatens to undermine the U.S. ability to control its own fate and maintain its position as a premier industrial power. Turner (1989) believes these sentiments reflect a fear of U.S. vulnerability to world-wide forces beyond its control.

For example, Little (1988) argues that foreign investment has become a critical force in determining both the exchange value of the dollar and, therefore, U.S. interest rates. Thus, she reasons, foreign investment affects the prices of imports--and therefore the price of import-competing goods, the interest Americans pay on their loans, and eventually the overall pace of inflation. Seth and Quijano (1991) warn that the growing Japanese share of total loans to U.S. firms has left the U.S. economy very vulnerable to Japanese lending practices, specifically a tightening of credit.

Turner (1989), however, believes FDIUS has decreased the vulnerability of the U.S. economy to exogenous forces. Citing Federal Reserve Board Chairman Alan Greenspan, she notes that foreign funds invested in U.S. plant and equipment are immobile to the point that they add to U.S. economic stability.

In support of this point, Reich (1990) claims that if foreign firms were to withdraw, their investments in human capital, plants, and equipment would still be available for U.S. production. Moreover, he believes that in a world with mobile resources, a nation's workforce is the defining measure of its ability to compete because labor is a relatively immobile resource. Therefore, as FDIUS improves American labor productivity, it improves U.S. economic competitiveness, and the ability to increase the U.S. standard of living.

Most authors who do not believe the notion that FDIUS threatens economic sovereignty and argue that several misperceptions of FDIUS encourage the fear of foreign control over the U.S. economy. These proponents of FDIUS believe that once the factual misunderstandings are clarified, the fear of foreign direct investment, specifically by Japanese interests, will dissipate.

Ott (1989) points to three of the common misperceptions of FDIUS. First is that FDIUS comprises the majority of foreign investment in the U.S. However, he notes that FDIUS is at most 21 percent of total foreign investment, and that U.S. direct investment abroad exceeds FDIUS. The second is that Japanese firms are the major foreign investors in the United States; rather, they rank a distant third behind the British and the Dutch. The third is that FDIUS is concentrated in the manufacturing sector. However, Ott notes that the share of foreign direct investment in U.S. manufacturing is 35 percent, slightly less than the 41 percent share of U.S. direct investment in manufacturing abroad. Japanese firms, moreover, have less than one-sixth of their FDIUS in manufacturing.

Other proponents of FDIUS, such as Anderson (1988), counter the notion of an economic threat from FDIUS by adding that foreign owners are subject to the same laws and regulations as U.S. companies. Furthermore, Anderson notes that foreign companies have the same economic incentives to use their U.S. resources as efficiently and profitably as any U.S. company.

B. Military Security

Both the Defense Science Board Task Force (DSBTF) (1990) and the GAO (1990) point out the concern over the long-term consequences from FDIUS of possible technology outflows and dependence on foreign-based decision-making in the U.S. defense products manufacturing industry. The DSBTF specifically warns against dependence on upstream sectors which are controlled by an oligopoly or a monopoly and notes that commercial competition naturally contributes to foreign dependency. In an effort to avert such a result, Congress added the 1988 Omnibus Trade and Competitiveness Act the "Exon-Florio" amendment which authorizes the President to block foreign acquisitions of, or mergers with, U.S. firms on which it is believed the U.S. military is overly dependent for technology.

The GAO (1990) notes that the majority of advances in defense-related areas, such as aerospace and semiconductors, are made by firms whose primary concern is commercial development. Thus, the issue involves not just the dependence of the Department of Defense on foreign-owned firms, but also the long-term U.S. commercial competitiveness and the ability of U.S. firms to provide a production base for defense needs. The GAO concludes that the administrative process established by the Exon-Florio amendment, through the Committee on Foreign Investment in the United States (CFIUS), is not suited to address this larger policy question.

Secondly, the GAO (1990) differentiates between the issues of the defense industry's reliance on foreign trade and that of FDIUS. Whereas both issues focus on sensitive decisions being made abroad, foreign investors also may provide new capital and technology to U.S.-based production facilities. These potential benefits of FDIUS raise the stakes of regulation and place a top priority on the ability of the CFIUS to determine the intentions of foreign investors regarding technology transfer and the continuation of advanced research. The GAO warns that determining foreign investors' intentions can be very difficult.

Similarly, the Defense Science Board Task Force (1990) points out that because the Defense Production Act allows the Department of Defense to requisition material or services from any domestically located establishment during crisis, it is inherently better for the United States to depend on foreign-owned U.S. subsidiaries rather than on foreign-owned sources offshore.

Graham and Ebert (1991) dispute the entire premise that foreign production of defense goods necessarily threatens military security. They find that foreign-controlled firms historically respond well to the security needs of the host nation. They, as well as Reich (1990), also point to the indispensable technology gains to U.S. military security from foreign firms that would be impaired if foreign mergers and acquisitions by foreign-owned firms are restricted. They contend that the real danger to military security lies in the formation of monopolies. Monopolies, they claim, tend to limit the supply of technologies and products crucial to the defense industry and could pose a serious problem in times of military conflict. They advocate regulating foreign ownership in the defense products industry on the basis of anti-trust decisions, not in terms of FDIUS.

III. Effects of FDIUS on the U.S. Economy

Foreign direct investment directly affects the U.S. economy in a number of areas, three of which -- U.S. technology, the U.S. trade balance, U.S. employment -- have attracted considerable attention in the literature on FDIUS.

A. Technology Transfer

The impact on the competitiveness and technological leadership of U.S. industry by foreign ownership of U.S. firms is a hotly debated subject. Much of the debate focuses on the motives of the foreign parent firms and what happens, or is likely to happen, to U.S. technology once a U.S. firm is acquired.

Opponents to FDIUS, according to Neale and Pass (1990), frequently argue that foreign multi-nationals use their U.S. subsidiaries to import U.S. technology back to the parent company. Where this occurs, they argue that subsidiaries tend to become dependent on the foreign parent company for their technology and become solely assembly line producers while the high value-added production occurs in the foreign country. Critics of FDIUS claim that this behavior is a ploy by foreign multinationals to acquire U.S. technology.

Proponents of FDIUS frequently approach the technology transfer issue much in the same manner as Horstmann and Markusen (1989), who assume an easily transferable parent-firm competitive advantage, such as is the case in technology. This advantage is transmitted through FDIUS to the U.S. affiliate. The foreign parent company receives profits, while the United States benefits from higher productivity and lower prices.

Several other authors also stress the benefits of the multinational enterprise. Harris and Ravenscraft (1991) claim that the inefficiencies of technology markets make the multinational enterprise the only efficient means for transferring technology across borders. Glickman and Woodward (1989) touch on Harris and Ravenscraft's point that the transaction costs and risks of selling patents can be avoided by the multinational firm through FDIUS.

Kogut and Chang (1991) use U.S. and Japanese industry measures of R&D expenditures and innovation frequency to determine whether FDIUS is motivates the foreign parent to develop an exisitng technological advantage or to acquire new technologies resident in the United States. Their preliminary findings indicate that Japanese FDIUS is more likely in high R&D expenditure industries and that the relative technological advantage of either country is not an influential factor. Findings by Harris and Ravenscraft that cross-border takeovers occurred more often in R&D intensive industries than do U.S. takeovers support the Kogut and Chang finding.

To clarify those findings, Kogut and Chang examine the mode of FDIUS by Japanese firms. They find Japanese firms tend to build new plants, not merely acquire existing ones, in industries in which they hold a competitive advantage. This supports the theory of the multinational enterprise; foreign firms transfer their technology in the form of new plants in return for market share and profits.

Yet, when the U.S. holds the technological advantage, Kogut and Chang find that Japanese firms prefer joint ventures. They believe these results suggest the use of cooperative ventures to source, or benefit from, U.S. technological capabilities in industries where the United States leads Japan in R&D expenditures. Citing research done by Kogut showing that most joint ventures end in acquisition, Kogut and Chang see this as an area of concern for outward technology transfer. However, Christlow (1989) concludes that joint ventures offer as much, if not more, technology and learning opportunities to U.S. firms than to Japanese firms, because most of these ventures are in industries in which Japanese firms already have a competitive advantage.

Because of the paucity of data on direct technology flows, the total flow of technology through FDIUS is unclear. In an attempt to bridge this data gap, Young and Steigerwald (1990) used royalties and license fees as proxies to examine foreign technology transfer. They find that technology transfer into the U.S. was more than five times larger than outward technology transfers. They conclude that, in general, no country's firms have used FDI to acquire U.S. technology.

A similar finding on Japanese FDIUS was made by the National Research Council (1992), which attempted to gauge the effects of Japanese FDIUS and related technology transfer. Using both expenditures on R&D and value-added per worker, the NRC finds indications that the technology flow from Japan to the United States is positive and increasing. They warn, however, that because of data limitations, their findings should be taken with caution.

In a separate study of U.S.-Japan semiconductor industry (1992), the NRC finds that the fierce competition and the lack of reluctance by large U.S. corporations to provide financial support in technology-intensive industries has driven U.S. firms to form strategic alliances with Japanese firms. In these alliances, small, U.S. start-up firms in search of funds, manufacturing foundries, and marketing outlets, turn to giant, diversified Japanese corporations to meet their needs. Because of the asymmetrical nature of these alliances, the smaller U.S. companies are forced to bargain away their only valuable asset--marketing rights for new products--in exchange for necessary funds. The NRC finds that this inequality of bargaining power characterizes the vast majority of U.S.-Japan alliances in high-technology industries and has led to a technology outflow from the United States to Japan.

Technology is embodied in more than just capital goods; it is embodied in nearly every aspect of the production process. One example of this process technology is the organizational and management skills brought by Japanese multinationals which Rehder (1988) refers to as socio-technical systems (STS). Rehder says these management systems are based on the interdependence of production factors. In these management systems, success is not the sum of the performance of each separate part of the production process, but rather the sum of the interactions of the separate production sub-systems. Harmony is the controlling theme for Japanese management, and Rehder believes U.S. automobile companies must take this approach if they are to become competitive.

Blomstrom (1991) refers to effects such as improved managing as "spillovers." In addition to managing practices, Blomstrom lists four other "spillovers" of technology transfer: increased competition, increased investment in physical or human capital by domestic firms that are forced to compete with multinationals, increased resources available for use by more productive firms when inefficient firms are driven out of business, and faster technology transfer. Blomstrom suggests that the magnitude of these "spillovers" is positively related to the host country's level of technology and competitiveness.

B. Trade Balance Effects

The literature discusses three major issues involving the effect of FDIUS on the U.S. trade balance--whether FDIUS actually affects the trade balance; if so, how FDIUS affects the trade balance; and what a change in the trade balance by FDIUS signifies.

Graham and Krugman (1991) argue that FDIUS has no effect on the overall size of the trade balance. By definition, the trade balance equals the difference between domestic investment and domestic saving. They argue that because FDIUS affects neither savings nor investment, it does not affect the trade balance. Furthermore, any microeconomic events brought on by FDIUS--such as higher import propensities--are offset by the exchange rate to leave the trade balance level unchanged.

Many researchers agree, however, that FDIUS does affect the trade balance. Proponents of FDIUS, such as Orr (1991), argue that the presence of foreign subsidiaries improves the U.S. trade balance. His regression analysis shows that the long-term effects of foreign-owned U.S. manufacturing are more significant in improving U.S. exports than exchange rates, relative prices, or economic growth. He sees two reasons for these effects. First, the inward transfer of technology increases U.S. competitiveness in the world market. Secondly, Orr says that FDIUS in non-traded industries evolves into competitive advantages that expand the U.S. export base.

Critics of FDIUS such as Glickman and Woodward (1989) argue that foreign-owned subsidiaries prefer to import their inputs from their parent companies and thereby increase the U.S. trade deficit. Graham and Krugman (1991), on the other hand, believe that the magnitude of input importing is negligible.

Robert Lipsey (1991) agrees with Graham and Krugman that FDIUS will not affect the long-run U.S. import level by pointing to the "internationalization of production." As subsidiaries "internationalize production," their supply and demand patterns -- and hence their trade patterns -- conform to those of their host country counterparts. Consequently, foreign affiliates eventually source their inputs from the United States. In the long-run then, FDIUS does not affect U.S. imports.

Also at issue is the effect of foreign acquisitions on the trade balance through their impact on productivity and, therefore, on export competitiveness. Orr recognizes the argument that acquisitions may not increase productivity and, therefore, may not expand exports. He responds, however, that any financial commitment to acquire production capabilities implies a long-run expectation of profits. Nevertheless, it does not follow that these profits are necessarily expected from the U.S. subsidiary. There are many motives for acquisitions -- such as technology acquisition -- that involve no direct profits from, or major production by, the subsidiary.

Finally, The Economist (1990) points out that a nation's economic success versus the success of its multinationals are entirely unrelated. Rather, it is the amount of value-added production and import sourcing by foreign-owned firms that determines the benefits to the host economy.

C. Employment Effects

A number of issues are discussed in the literature on employment level and quality, and wage effects. Graham and Krugman (1991) detail several arguments concerning FDIUS employment effects. Proponents argue that FDIUS in the form of new plants creates jobs, while critics contend that there is no employment creation because FDIUS is concentrated in acquisitions. The propensity of foreign firms to import resources is an important issue, especially because of the relatively higher value-added production of foreign-owned firms compared to U.S.-owned firms. The higher the propensity, the more foreign employment and less U.S. employment.

Graham and Krugman argue that FDIUS has no direct effect on the level of U.S. employment, because the level of employment is largely determined by the Federal Reserve's ability to create and sustain demand for goods through their policies toward interest rates. They do believe, however, that FDIUS can affect the composition of employment. For instance, a foreign-owned firm, just as a U.S.-owned firm, may increase unemployment by laying off workers in depressed regions, leaving them with few job prospects. Or a foreign-owned firm may lay off workers belonging to skill categories in which there is already an excess supply.

Graham and Krugman also discuss the effects of FDIUS on the "quality" of employment. Their main concern is that foreign firms concentrate high skill and high wage jobs in foreign production and allot low-wage production to the United States. They dismiss this likelihood on two grounds: 1) there is no empirical evidence to support it, and 2) the concern over "quality" of employment should be over establishing a U.S. industrial policy, not FDIUS.

On the other hand, Makin (1988) and Ott (1989) believe that FDIUS significantly impacts both the level of employment and job "quality." Makin believes FDIUS will drive up both U.S. wage rates as well as U.S. returns to labor. Similarly, Ott treats FDIUS as otherwise unavailable capital that increases the productivity of labor. He further reasons that an increase in U.S. labor productivity results in either higher wages, higher employment levels, or both.

The higher wage rates in foreign-owned firms that Ott expects appear to be supported by a recent report from the Bureau of Labor and Statistics (BLS) (1992). The BLS finds that in the fourth quarter of 1989, workers in foreign-owned U.S. establishments earned an average monthly income 20 percent higher than workers in all U.S. establishments. It is unclear whether these higher wages result from Ott's causal hypothesis that higher wages result from higher FDIUS labor productivity, or merely from a FDIUS concentration in higher wage rate industries. The BLS indicates two reasons for these higher wage rates: 1) foreign investors tend to invest in higher-paying industries, and 2) a difference in the occupational mix between foreign-owned U.S. establishments and U.S.-owned U.S. establishments. However, the BLS has not yet reported on this latter point.

Ott's view that FDIUS increases U.S. labor productivity is closely related to the flow of technology between countries. For FDIUS to improve labor productivity, it must either increase the U.S. capital stock or improve the production process. In either case, FDIUS must add technology to the United States to improve U.S. labor productivity. The National Research Council (1992) recognizes this link between labor productivity and technology flows by using changes in value-added per worker to measure the flow of technology between Japan and the United States.

Reich (1990) addresses FDIUS and employment from the perspective of human capital. He believes that today's world economy has relatively mobile resources, and, therefore, a nation's workforce is the deciding advantage in its ability to compete. Consequently, he advocates subsidizing any firm--regardless of ownership--which improves American workers' ability to add value to the world economy.

Glickman and Woodward (1989) believe that the benefits of FDIUS to U.S. employment are highly overstated and that no form of FDIUS creates jobs--greenfield plants, acquisitions, or joint ventures. In fact, they estimate that FDIUS reduces employment. They see the only saving grace of FDIUS as the saving of jobs by foreign acquisitions when the firms they acquire are failing American companies. They also do not endorse Ott's (1989) notion that FDIUS improves job quality.

Cultural differences between the foreign parent country and the United States can also affect employment. Cultural differences can affect management styles, labor relations, and communication problems. For example, Moavenzadeh (1989) singles out Japanese-owned affiliates in the U.S. construction industry as the firms most reflecting these differences. In their start-up stage Japanese-owned affiliates tend to rely more upon Japanese nationals in construction projects in the United States and on their Japanese parent firms to supply resources, than is the case of European-owned U.S. affiliates.

Finally, Tolchin and Tolchin (1988) attack FDIUS as detrimental to U.S. labor. They sympathize with organized labor's concern that foreign firms, especially Japanese firms, avoid locating in strongly unionized industries, and, even when they do locate in these industries, are highly hostile toward unions. Vernon (1992) offers a possible explanation for this behavior, noting that foreign investors frequently negotiate with labor from an unusually stronger position than domestic-owned firms. One reason is that they are able to locate in areas where, for instance, unions may be weak and unemployment may be high; and second, they are able to allocate production across several locations, which weakens the threat that a negotiation deadlock with unions will lead to a shutdown of all existing operations. Kenney and Florida suggest that some Japanese transplants' ability to operate free from union pressures is reflected in their high incidence of worker injuries, a strong control over their employees both in the workplace and in the community, and poor minority hiring records. Nonetheless, they find that many of the Japanese industrial transplant facilities are in fact unionized and pay high wages.

Ray (1991) finds no evidence to support the Tolchins' claim that FDIUS is purposely located to undercut organized labor, and Glickman and Woodward find no difference between foreign and domestic labor practices in the United States. Sanyal (1990) also concludes that a firm's nationality is an insignificant influence on union elections, and that foreign firms and domestic firms are equally difficult to unionize.

IV. Specific Industries

While many U.S. industries are mentioned in the literature discussing FDIUS, much of the discussion is focused on the U.S. automotive, real estate, and banking industries.

A. Automotive

Many authors, such as Jackson (1989), attribute the entrance of FDI into the U.S. auto industry to the voluntary export restraints (VERs) placed on Japanese auto industries. Jackson claims that foreign auto producers simply transplanted manufacturing into the United States to preserve their market share that had been previously attained through exports. Jackson also notes that the VERs allowed foreign auto companies to boost their prices for the smaller quantity of goods they exported to the U.S. in proportion to the growing consumer demand for their automobile.

One of the main issues of FDIUS in the U.S. automotive industry is its effect on the extent of U.S. domestic content in cars produced by Japanese-owned auto manufacturers. Magnusson (1991) explores what constitutes "made in America" and concludes that the lower domestic content of Japanese versus U.S.-owned auto production stems from two inter-related characteristics peculiar to Japan's auto industry. First is the high propensity of the Japanese automobile industry to import inputs. Second, is their tendency to concentrate high-skill manufacturing, designing, and engineering in Japan, while the relegating the lower-skill assembly work to facilities in the United States. Thus, automobiles supplied by Japanese-owned plants in the United States tend to be not as wholly "made in America" as those supplied by U.S.-owned producers.

A second element of the "made in America" issue involves the expanding Japanese-owned share of the U.S. auto parts industry. Newman (1990) attributes this rising share to a well planned Japanese strategy: (1) Auto producers establish a demand for very high quality auto parts and invite competition to supply them. (2) These auto producers then document the inability of U.S.-owned parts producers to meet the demand based on price and quality. (3) This, in turn, justifies their using familiar sources, namely Japanese-owned parts suppliers on whom they also depend in Japan. (4) These Japanese auto-parts suppliers expand to the United States. (5) They create a dependence in the U.S. communities where they locate for their jobs and in the U.S. auto industry for their parts and components. 6) This dependence creates for the Japanese auto industry a U.S. political constituency opposed to domestic content legislation.

According to some researchers, the rapid growth of Japanese-owned U.S. auto parts production by many of the same companies that supplied parts for Japanese auto producers in Japan has created a U.S. concern that Japanese firms are replicating their *kieretsus* in the United States. Newman stresses the role of *kieretsu* in the successful Japanese market entry. Because of the close connection between the auto parts suppliers and the auto producers, he indicates that the *kieretsu* often resembles a vertical trust. Newman finds this cohesiveness lacking between the U.S.-owned auto producers and parts suppliers, and claims it is a major factor in the U.S.-owned automobile producing sector's decline.

Magnusson points out that in the United States the *kieretsu* is frequently regarded as an unfair business practice. He cites critics who claim the *kieretsu* unfairly increases competitive pressures on the U.S.-owned auto parts industry, threatening to drive them out of business. Magnusson also alludes to "dumping" that *kieretsu* encourage. For example, U.S. Customs charged that Honda's Tokyo headquarters dictated below-cost prices which

Honda's parts suppliers charged. Magnusson argues that such pricing is a violation of trade law.

The GAO (1988) examines the effects of Japanese FDIUS on the employment level in the automobile industry, and estimates that the aggregate job loss between 1985 and 1990 would not exceed 360,000. The GAO indicates that the key factor contributing to this decline in employment was the rate at which Japanese-affiliated auto producers' output displaced U.S.-owned auto producers' output. Other factors include increased use of foreign-produced parts by U.S. automakers, increased auto imports, and labor productivity gains in the auto industry.

B. Real Estate

A large share of the surge in FDIUS in the last half of the 1980s went into real estate. Some of these direct investments, particularly by Japanese investors, were in well known buildings, such as "Rockefeller Center," and attracted great media attention. This attention is reflected in the economic literature.

Faggen and Prescott (1989) point out that the largest motive for FDIUS in U.S. real estate is a combination of the relatively low cost of borrowing abroad and the higher returns on investment in the U.S. They indicate these two factors enable foreign investors to pay a "premium" price for U.S. real estate with an acceptable yield. They also suggest that the resulting foreign investors' willingness to pay these higher prices effectively reduces the number of U.S. investors capable of competing for real estate.

Malin (1991) believes the higher prices offered by foreign investors will alter the valuations of "world-class" real estate. He predicts that U.S. sellers of internationally appealing property will raise their prices from those that domestic buyers would accept to those offered by foreign investors. He believes the market yield on U.S. real estate will eventually equalize with that for foreign "world class" real estate.

The GAO (June 1991) notes that FDI in U.S. commercial real estate raises both prices and tax assessments for commercial real estate and believes it contributed to overbuilding in the commercial real estate market. The GAO also points out benefits from FDIUS, including increased profits for real estate sellers, increased real estate investment capital, and greater tax revenues for local governments.

The GAO, however, also points to the possible detrimental effects of FDIUS on residential real estate. Their main concern is that an increase in prices for residential real estate would decrease the amount of affordable housing. In particular, the GAO is concerned that foreign purchases of residential properties for vacation homes and rentals have reduced the supply of housing for local residents in Hawaii.

Noteware (1989) and Nelson and Ogawa (1991) examine the entry of mid-size Japanese corporations into the U.S. real estate market. They argue that a shrinking market for prime U.S. commercial real estate and increasing demand for U.S. real estate caused foreign real estate investors to diversify their assets. Noteware argues that Japanese investors, in particular, appeared interested in properties that U.S. investors frequently consider extraordinarily risky. They argue that this diversification bodes well for U.S. resorts and retirement housing, which U.S. investors had previously tended to avoid.

C. Banking

Foreign owned banks--especially Japanese-owned banks--have rapidly increased in number and U.S. market share during the past decade, giving rise to a number of issues. Considerable concern has been frequently expressed not only about their competition with U.S.-owned banks, but also their influence on non-banking firms' operations.

Hultman and McGee (1989) find that over the period from 1973 to 1986, the growth of foreign-owned bank branches and agencies in the United States is directly related to changes in the overall level of foreign direct investment in U.S. industries, the exchange value of the dollar, and the effects of the International Banking Act of 1978. Moreover, they argue that foreign-owned banks are established in the United States largely to serve other foreign-owned firms' loan requirements.

Seth and Quijano (1991), in examining Japanese investment in U.S. banking, contend that while Hultman and McGee's finding may have been initially true, more recently, U.S.-owned firms have become the predominate borrowers from Japanese banks. Seth and Quijano also warn that the growing dependency by U.S.-owned firms on Japanese banks makes the U.S. economy increasingly vulnerable to a slowdown in Japanese lending.

McCauley and Zimmer (1991) find that a higher U.S. than foreign cost of financial capital contributed to the growing presence of foreign-owned U.S. banks, based on U.S. banks owned by West Germany, the U.K., and Japan. McCauley and Zimmer base their conclusion on the close correlation between the costs of capital and the rising asset value of foreign-owned banks relative to U.S. banks.

Orr (1990) examines three possible reasons why Japanese banks might enjoy a relative cost of capital advantage over U.S.-owned banks, and may have contributed to the rapid rise in Japanese investment in U.S. banking. The first factor is that Japanese-owned banks with cash-rich Japanese parent banks have a competitive advantage over U.S.-owned banks, as the Japanese parent banks can fund lending by their branches and agencies at below market rates. However, Orr appears to dismiss the likelihood that this factor is significant, as he says that Zimmerman implies that Japanese parent banks are not willing to forego more attractive investments merely to subsidize their affiliates.

Orr's second possible factor is that the Japanese government's policy of holding interest rates at below market levels is a cost of capital advantage for Japanese banks as well as their U.S. affiliates. However, he points out that while this may have been the case prior to the late 1980s, the process of interest rate deregulation begun by the Japanese Ministry of Finance in 1984 is slowly taking effect. Moreover, the adjustment of interest rates paid by the Japanese Postal Savings System to match deregulated Japanese bank rates diminishes their potential cost of capital advantage.

The third Orr factor is the close links between large Japanese financial institutions and their Japanese clients. He indicates that *kieretsu* relationships are based on cross shareholdings and allow Japanese banks to prosper from their clients' growth. The resulting profits enable the Japanese banks, and their U.S. affiliates, to loan at below market rates. Because *kieretsus* exclude participation by U.S.-owned banks, Orr concludes that they offer Japanese-owned banks a competitive advantage.

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APPENDIX C

Chapter Tables

The following tables were created by the authors of chapters 2, 4A, 4B, 5, 6, and 7, in addition to the tables appearing within their chapters. The table numbers lead with the appropriate chapter numbers, for example, "Table 7-3."

Table 2-1
World Foreign Direct Investment Flows, 1980-91
(In billion dollars)

A. FDI Outflows

	Total	United States*	Europe	Japan	Other Developed	Developing
1980	57.0	21.7	26.7	2.4	5.0	1.1
1981	56.7	12.7	28.7	4.9	7.4	3.0
1982	37.1	9.7	19.6	4.5	1.7	1.6
1983	42.8	9.8	21.7	3.6	5.6	2.1
1984	51.7	13.7	25.8	5.9	5.1	1.3
1985	52.5	8.5	31.4	6.5	4.9	1.2
1986	87.1	12.8	50.7	14.5	7.3	1.9
1987	135.3	26.1	73.1	19.5	14.1	2.5
1988	167.2	14.3	100.9	34.2	11.6	6.2
1989	208.0	25.7	119.3	44.1	9.1	9.8
1990	234.6	29.3	141.6	48.1	6.2	9.4
1991	183.4	29.2	112.8	30.7	5.0	5.7

B. FDI Inflows

	Total	United States	Europe	Canada	Other Developed	Developing
1980 ...	51.5	16.9	21.5	0.5	2.3	10.2
1981 ...	56.3	25.2	17.2	-2.8	2.8	13.9
1982 ...	42.4	13.8	14.9	-1.9	3.2	12.4
1983 ...	44.4	11.5	16.1	1.7	3.7	11.5
1984 ...	48.5	25.6	9.8	2.5	1.1	9.6
1985 ...	48.5	20.5	15.8	-1.8	2.7	11.3
1986 ...	76.9	36.1	24.7	1.2	3.8	11.1
1987 ...	127.9	59.6	40.2	4.2	5.0	18.9
1988 ...	149.8	58.6	57.5	3.8	7.3	22.6
1989 ...	189.9	69.0	82.4	4.3	7.1	27.1
1990 ...	200.8	46.1	109.4	7.0	10.1	28.2
1991 ...	144.8	12.6	86.6	4.5	6.5	34.6

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* Excludes capital flows with Netherlands Antilles finance affiliates. Capital flows for the United States are at book value, consistent with the basis used by other countries.
Source, 1980-90: International Monetary Fund, Balance of Payments Statistics Yearbook, various issues.

Table 2-2
Recent Trends in World Outward FDI Stock, 1980, 1985 & 1990
(In billions of dollars or percentage)

	Amount			Percent Distribution			Average Annual Rate of Growth	
	1980	1985	1990	1980	1985	1990	1980-85	1985-90
All Countries	$516.9	$678.2	$1,644.2	100.0%	100.0%	100.0%	5.6%	19.4%
Developed Countries	503.6	656.3	1,593.0	97.4	96.8	96.9	5.4	19.4
United States a)	220.2	251.0	426.5	42.6	37.0	25.9	2.7	11.2
Europe	231.6	308.6	852.6	44.8	45.5	51.9	5.9	22.5
EC(12)	200.2	268.1	714.8	38.7	39.5	43.5	6.0	21.7
Belgium-Luxembourg b) c)	4.7	4.3	22.6	0.9	0.6	1.4	-1.8	39.4
Denmark	1.0	1.7	7.3	0.2	0.3	0.4	11.2	33.8
France c)	20.8	31.5	114.8	4.0	4.6	7.0	8.7	29.5
Germany	43.1	59.9	155.1	8.3	8.8	9.4	6.8	21.0
Greece	d)	d)	d)	d)	d)	d)	d)	d)
Ireland	d)	d)	d)	d)	d)	d)	d)	d)
Italy	7.0	18.0	60.0	1.4	2.7	3.6	20.8	27.2
Netherlands	42.4	47.6	99.2	8.2	7.0	6.0	2.3	15.8
Portugal	0.1	0.2	0.5	(*)	(*)	(*)	14.9	20.1
Spain	1.9	3.7	10.5	0.4	0.5	0.6	14.3	23.2
United Kingdom	79.2	101.2	244.8	15.3	14.9	14.9	5.0	19.3
Other Europe	31.4	40.5	137.8	6.1	6.0	8.4	5.2	27.7
Sweden	7.2	11.5	50.7	1.4	1.7	3.1	9.8	34.5
Switzerland	22.4	25.3	64.9	4.3	3.7	3.9	2.5	20.7
Other European Countries c)	1.8	3.7	22.2	0.3	0.5	1.4	15.5	43.1
Japan c)	19.6	44.0	201.4	3.8	6.5	12.2	17.6	35.6
Canada e)	21.6	38.7	74.7	4.2	5.7	4.5	12.4	14.1
Australia and New Zealand	5.1	7.6	30.2	1.0	1.1	1.8	8.3	31.8
South Africa	5.5	6.4	7.6	1.1	0.9	0.5	3.1	3.5
Developing Countries c) f)	13.3	21.9	51.2	2.6	3.2	3.1	10.5	18.5
Addendum: OPEC Countries g)	1.0	5.3	8.5	0.2	0.8	0.5	39.6	9.9

(*) Less than one-tenth of one percent.

Note: Detail may not add to totals because of rounding. End of year exchange rates were used to convert stocks valued in local currencies to U.S. dollars.

a) Data exclude the negative U.S. direct investment position in the Netherlands Antilles finance industry.

b) Stock data available for Belgium only.

c) Among developed countries, Belgium, France, Luxembourg, several other European countries not shown separately, and Japan do not collect complete reinvested earnings data. The Netherlands does not collect reinvested earnings data for the banking industry. Also, a number of developing countries do not collect reinvested earnings data. If reinvested earnings were included, the stocks for those countries would be higher.

d) Neither Greece nor Ireland collect statistics on outward direct investment.

e) Direct investment abroad by Canadian banks was not included prior to revised data series beginning with 1983 data.

f) Stock estimate for developing countries includes adjustment for Kuwait. Outward direct investment flows from Kuwait have been adjusted to $2,657 million in 1981, $559 million in 1982, and $741 million in 1984. The data for Kuwait were adjusted based on U.S. data showing direct investment capital inflows to the United States from Kuwait.

g) OPEC countries are Algeria, Ecuador, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates and Venezuela.

Table 2-2 (continued)

Sources: For **Australia**, OECD, Recent Trends in International Direct Investment, 1987 (based on data compiled by the Australian Bureau of Statistics); 1980 and 1990 stocks from IMF, Balance of Payments Statistics Yearbook, Part I, 1991. For **Belgium and Luxembourg**, United Nations, Salient Features and Trends in Foreign Direct Investment, 1983; 1980 and 1990 stocks from IMF, op. cit. For **Canada**, OECD, op. cit. (based on data compiled by Statistics Canada); 1980 and 1990 stocks from Statistics Canada. For **Denmark**, all stocks estimated from cumulative outward direct investment flows from IMF, op.cit.,various issues. For **France**, stock estimates for 1967 and 1973 from United Nations op. cit. (based on H.D. Dragenan, editor, Internationale Direktinvestioner 1973-75), plus or minus cumulative outward direct investment flows for other years' estimates from IMF, op cit. For **Germany**, for 1960-75, "special statistics" of the Ministry of Economics published in various issues of the Monthly Report of the Deutsche Bundesbank; for 1976 and subsequent years, "International capital links between enterprises, by country and branch of economic activity" in the appendices to the Statistical Supplement to the Monthly Report of the Deutsche Bundesbank, Part 3, "Balance of Payments Statistics," March issues. For **Italy**, United Nations, op. cit., and for 1980 and 1990 IMF, op. cit. For **Greece**, no data are available on outward direct investment. For **Ireland**, no data are available on outward direct investment. For **Japan**, for 1960-75, "approvals basis data" from the Ministry of Finance; for 1976 and subsequent years, direct investment external assets data (which exclude reinvested earnings) from the Bank of Japan, Balance of Payments Monthly, April issues. For the **Netherlands**, stock estimates for 1960 and 1967 from Dunning and Stopford, Multinationals: Company Performance and Global Trends; 1973 from OECD, op. cit. (based on data compiled by De Nederlandsche Bank); 1980 and 1989 stocks from IMF, op. cit., plus the cumulative outward direct investment flow for 1990 from IMF, op. cit. For **Portugal**, all stocks estimated from cumulative outward direct investment flows from IMF, op.cit., various issues. For **South Africa**, Dunning and Stopford, op. cit., United Nations, op. cit., and IMF, op. cit. For **Spain**, for 1967-80, stocks estimated from cumulative outward direct investment flows from IMF, op.cit., various issues; 1980 and 1988 actual stocks, plus cumulative 1989 and 1990 flows from IMF, op.cit. For **Sweden**, stock estimate for 1970 from United Nations, op. cit. (based on total assets of majority-owned manufacturing affiliates in Skandinaviska Enskilda Bankens, Quarterly Review No. 2, 1972), plus or minus cumulative outward direct investment flows for 1960, 1967 and 1973; 1980 and 1988 actual stocks, plus outward direct investment flows for 1989 and 1990 from IMF, op. cit. For **Switzerland**, for years prior to 1985, Union Bank of Switzerland, Switzerland in Figures, and revised, unpublished data for years prior to 1982; for 1985-90, IMF, op.cit. For the **United Kingdom**, Central Statistical Office, United Kingdom Balance of Payments (the "Pink Book"), various years. For the **United States**, U.S. Department of Commerce, Bureau of Economic Analysis, Selected Data on U.S. Direct Investment Abroad, 1950-76, and Survey of Current Business, August 1985 and August 1992. For other developed countries and for developing countries, stock estimates through 1978 from United Nations, op. cit. and Dunning and Stopford, op. cit.; for later years, stocks estimated from cumulative outward direct investment flows from IMF, op. cit.(including Hong Kong and Taiwan from 1987 forward), with an adjustment for Kuwait (see footnote f).

Table 2-3
Recent Trends in World Outward FDI Stock, 1980, 1985 & 1990
(In billions of SDRs or percent)

	Amount (SDRs)			Percent Distribution			Average Annual Rate of Growth	
	1980	1985	1990	1980	1985	1990	1980-85	1985-90
All Countries	405.3	617.4	1,155.7	100.0%	100.0%	100.0%	8.8%	13.4%
Developed Countries	394.9	597.5	1,119.7	97.4	96.8	96.9	8.6	13.4
United States a)	172.7	228.5	299.8	42.6	37.0	25.9	5.8	5.6
Europe	181.6	280.9	599.3	44.8	45.5	51.9	9.1	16.4
EC(12)	157.0	244.1	502.4	38.7	39.5	43.5	9.2	15.5
Belgium-Luxembourg b) c)	3.7	3.9	15.9	0.9	0.6	1.4	1.1	32.5
Denmark	0.8	1.5	5.1	0.2	0.2	0.4	13.4	27.7
France c)	16.3	28.7	80.7	4.0	4.6	7.0	12.0	23.0
Germany	33.8	54.5	109.0	8.3	8.8	9.4	10.0	14.9
Greece	d)	d)	d)	d)	d)	d)	d)	d)
Ireland	d)	d)	d)	d)	d)	d)	d)	d)
Italy	5.5	16.4	42.2	1.4	2.7	3.6	24.4	20.8
Netherlands	33.2	43.3	69.7	8.2	7.0	6.0	5.5	10.0
Portugal	0.1	0.2	0.3	(*)	(*)	(*)	14.9	8.4
Spain	1.5	3.4	7.4	0.4	0.6	0.6	17.8	16.8
United Kingdom	62.1	92.1	172.1	15.3	14.9	14.9	8.2	13.3
Other Europe	24.6	36.9	96.9	6.1	6.0	8.4	8.4	21.3
Sweden	5.6	10.5	35.6	1.4	1.7	3.1	13.4	27.7
Switzerland	17.6	23.0	45.6	4.3	3.7	3.9	5.5	14.7
Other European Countries c)	1.4	3.4	15.6	0.3	0.6	1.3	19.4	35.6
Japan c)	15.4	40.1	141.6	3.8	6.5	12.2	21.1	28.7
Canada e)	16.9	35.2	52.5	4.2	5.7	4.5	15.8	8.3
Australia and New Zealand	4.0	6.9	21.2	1.0	1.1	1.8	11.5	25.2
South Africa	4.3	5.8	5.3	1.1	0.9	0.5	6.2	-1.8
Developing Countries c) f)	10.4	19.9	36.0	2.6	3.2	3.1	13.9	12.6
Addendum: OPEC Countries g)	0.8	4.8	6.0	0.2	0.8	0.5	43.1	4.6

(*) Less than one-tenth of one percent.

Note: Detail may not add to totals because of rounding. End of year exchange rates were used to convert stocks valued in local currencies to U.S. dollars.

a) Data exclude the negative U.S. direct investment position in the Netherlands Antilles finance industry.

b) Stock data available for Belgium only.

c) Among developed countries, Belgium, France, Luxembourg, several other European countries not shown separately, and Japan do not collect complete reinvested earnings data. The Netherlands does not collect reinvested earnings data for the banking industry. Also, a number of developing countries do not collect reinvested earnings data. If reinvested earnings were included, the stocks for those countries would be higher.

d) Neither Greece nor Ireland collect statistics on outward direct investment.

e) Direct investment abroad by Canadian banks was not included prior to revised data series beginning with 1983 data.

f) Stock estimate for developing countries includes adjustment for Kuwait. Outward direct investment flows from Kuwait have been adjusted to $2,657 million in 1981, $559 million in 1982, and $741 million in 1984. The data for Kuwait were adjusted based on U.S. data showing direct investment capital inflows to the United States from Kuwait.

g) OPEC countries are Algeria, Ecuador, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates and Venezuela.

Sources: See sources for Appendix C, Table 2-2.

Table 2-4
World Outward FDI Stock of 10 Largest Source Countries, Ranked by Size in 1980, 1985 & 1990
(In billions of dollars or percent)

	Amount at Yearend 1990	Rank			Percent Distribution		
		1990	1985	1980	1990	1985	1980
All Countries	$1,644.2	---	---	---	100.0%	100.0%	100.0%
United States a)	426.5	1	1	1	25.9	37.0	42.6
United Kingdom	244.8	2	2	2	14.9	14.9	15.3
Japan b)	201.4	3	5	8	12.2	6.5	3.8
Germany	155.1	4	3	3	9.4	8.8	8.3
France b)	114.8	5	7	7	7.0	4.6	4.0
Netherlands	99.2	6	4	4	6.0	7.0	8.2
Canada	74.7	7	6	5	4.5	5.7	4.2
Switzerland	64.9	8	8	6	3.9	3.7	4.3
Italy	60.0	9	9	10	3.6	2.7	1.4
Sweden	50.7	10	10	9	3.1	1.7	1.4
Subtotal	1,492.1	---	---	---	90.7	92.7	93.5
Other Countries	152.1	---	---	---	9.3	7.3	6.5

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a) Data for the United States exclude the negative U.S. direct investment position in the Netherlands Antilles finance industry.

b) Of the countries shown separately in this table, reinvested earnings data are not collected by Japan or France. If reinvested earnings data were included, we estimate that Japan's stock of direct investment abroad would have been about $218 billion at yearend 1990. The outward stock for France would probably also have been slightly higher, but not enough to change its rank order.

Source: See sources for Appendix C, Table 2-2.

Table 2-5
Recent Trends in World Inward FDI Stock, 1980, 1985, & 1990
(In billions of dollars or percentage)

	Amount			Percent Distribution			Average Annual Rate of Growth	
	1980	1985	1990	1980	1985	1990	1980-85	1985-90
All Countries	$505.3	$727.1	$1,638.9	100.0%	100.0%	100.0%	7.5%	17.6%
Developed Countries	394.1	544.5	1,328.9	78.0	74.9	81.1	6.7	19.5
United States	83.0	184.6	396.7	16.4	25.4	24.2	17.3	16.5
Europe	211.6	252.4	726.3	41.9	34.7	44.3	3.6	23.5
EC(12)	186.9	224.6	646.6	37.0	30.9	39.5	3.7	23.6
Belgium-Luxembourg a) b)	7.5	8.3	30.5	1.5	1.1	1.9	2.0	29.7
Denmark b)	4.2	4.6	7.7	0.8	0.6	0.5	1.8	10.9
France b)	21.1	31.9	71.8	4.2	4.3	4.4	8.1	18.2
Germany c)	47.9	49.5	132.5	9.5	6.8	8.1	0.7	21.8
Greece b)	3.0	5.3	9.2	0.6	0.7	0.6	12.1	11.7
Ireland b)	1.9	2.8	3.1	0.4	0.4	0.2	8.1	2.1
Italy b)	8.9	20.0	60.0	1.8	2.8	3.7	17.6	24.6
Netherlands b)	19.2	24.8	62.8	3.8	3.4	3.8	5.3	20.4
Portugal	1.1	2.0	7.5	0.2	0.3	0.5	12.7	30.3
Spain b)	9.1	12.8	55.9	1.8	1.8	3.4	7.1	34.3
United Kingdom d)	63.0	62.6	205.6	12.5	8.6	12.5	-0.1	26.8
Other Europe	24.7	27.8	79.7	4.9	3.8	4.9	2.4	23.4
Sweden	1.7	3.0	9.7	0.3	0.4	0.6	12.0	26.5
Switzerland e)	14.3	14.6	43.4	2.8	2.0	2.6	0.4	24.3
Other European Countries b)	8.7	10.2	26.6	1.9	1.4	1.6	3.2	21.1
Canada f)	51.6	62.4	108.0	10.2	8.6	6.6	3.9	11.6
Australia and New Zealand	28.1	29.8	76.9	5.6	4.1	4.7	1.2	20.9
South Africa	16.5	10.6	11.1	3.3	1.5	0.7	-8.5	0.9
Japan b) g)	3.3	4.7	9.9	0.7	0.6	0.6	7.3	16.1
Developing Countries b)	111.2	182.6	310.0	22.0	25.1	18.9	10.4	11.2
Western Hemisphere	62.3	87.0	119.6	12.3	12.0	7.3	6.9	6.6
Africa	13.1	22.3	35.3	2.6	3.1	2.2	11.2	9.6
Asia	35.8	73.3	155.1	7.1	10.1	9.5	15.4	16.2
Middle East h)	4.3	6.5	12.0	0.9	0.9	0.7	8.6	13.0
Other Asian Countries	31.5	66.8	143.0	6.2	9.2	8.7	16.2	16.4
Addenda:								
Outward Stock	516.9	678.2	1,644.2					
Inward Stock	505.3	727.1	1,638.9					
Difference i)	11.6	-48.9	5.3					
OPEC Countries j)	10.8	15.6	24.2	2.1	2.1	1.5	7.6	9.2

Note: Detail may not add to totals because of rounding. End of year exchange rates were used to convert stocks valued in local currencies to U.S. dollars.

Table 2-5 (continued)

a) Stock data available for Belgium only.

b) Among developed countries, Belgium, Denmark, France, Greece, Luxembourg, Spain, several other European countries not shown separately, and Japan do not collect complete reinvested earnings data. The Netherlands does not collect reinvested earnings data for the banking industry. Also, a number of developing countries do not collect reinvested earnings data. If reinvested earnings were included, the stocks for those countries would be higher.

c) Beginning with 1976 and for subsequent years, data used are "statistics on levels" for both primary and secondary investment as compiled and published by the Deutsche Bundesbank. Data for years prior to 1976 are commonly referred to as "special statistics" published by the Ministry of Economics.

d) Data include banking beginning with 1976. Prior to 1979, investment in insurance companies is for the United States only. Beginning with 1979, data include investment by oil companies, insurance companies, and investment in real estate.

e) Data back to 1960 were revised in 1979 by the Union Bank of Switzerland to more accurately reflect its estimates (based on sample data) of Swiss direct investment abroad.

f) Data series revised beginning with 1983 data to include non-resident equity in Canadian assets abroad, and now represents only foreign investment in Canadian enterprises, not just in Canada.

g) Beginning with 1976 and for subsequent years, data used are direct investment external assets (which exclude reinvested earnings) as compiled and published by the Bank of Japan. Data for years prior to 1976 are "approvals basis data" from the Ministry of Finance.

h) Data for inward direct investment flows to Saudi Arabia as published by the IMF for the years 1979-84 were not used in this table to estimate the stock of inward direct investment in OPEC countries in 1980 or 1989. Instead, estimates for these flows were based on data for outward direct investment flows to Saudi Arabia from major source countries, as compiled from major source country data. Inward direct investment flows to Saudi Arabia were estimated at $2,147 million in 1979; -$3,228 million in 1980; -$374 million in 1981; -$1 million in 1982; $891 million in 1983; $358 million in 1984; $216 million in 1987; -$312 million in 1988; and -$45 million in 1989. Also, an IMF estimate for unspecified Middle Eastern countries in 1979 of -$4,102 million (debit) is excluded from our estimates.

i) This table is intended to show only regional and country patterns of inward direct investment. Because of differences in data collection systems and methodologies for inward compared with outward direct investment (both within some individual countries as well as between countries), and possible statistical error, the world stock of inward direct investment is not equal to the world stock of direct investment abroad.

j) OPEC countries are Algeria, Ecuador, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates and Venezuela.

Sources: For **Australia**, OECD, Recent Trends in International Direct Investment, 1987 (based on data compiled by the Australian Bureau of Statistics), and IMF, Balance of Payments Statistics Yearbook, Part I, 1991. For **Belgium and Luxembourg**, United Nations, Salient Features and Trends in Foreign Direct Investment, 1983; 1980 and 1990 stocks from IMF, op. cit. For **Canada**, OECD, op.cit. (based on data compiled by Statistics Canada); 1980 and 1990 stocks from Statistics Canada. For **Denmark**, OECD, op.cit., plus cumulative inward direct investment flows for 1984-90 from IMF, op.cit. For **France**, stock estimates for 1967 and 1973 from United Nations, op.cit., plus cumulative inward direct investment flows for 1974 forward from IMF, op.cit., various issues. For **Germany**, for 1960-75, "special statistics" of the Ministry of Economics published in various issues of the Monthly Report of the Deutsche Bundesbank; for 1976 and subsequent years, "International capital links between enterprises, by country and branch of economic activity" in the appendices to the Statistical Supplement to the Monthly Report of the Deutsche Bundesbank, Part 3, "Balance of Payments Statistics," March issues. For **Greece**, stocks estimated from cumulative inward direct investment flows from IMF, op. cit., various issues. For **Ireland**, stocks estimated from cumulative inward direct investment flows from IMF, op. cit, various issues. For **Italy**, United Nations, op.cit. and IMF, op. cit. For **Japan**, for 1967, "approvals basis data" from the Ministry of Finance; for 1972 and subsequent years, Bank of Japan direct investment external liabilities data from Balance of Payments Monthly, April issues. For the **Netherlands**, stock estimates for 1960 and 1967 from Dunning and Stopford, Multinationals: Company Performance and Global Trends; 1973 from OECD, op. cit. (based on data compiled by De Nederlandsche Bank); 1980 and 1989 stocks from IMF, op. cit., plus the cumulative outward direct investment flow for 1990 from IMF, op. cit. For **New Zealand**, stocks estimated from cumulative inward direct investment flows from IMF, op.cit., various issues. For **Portugal**, stocks estimated from cumulative inward direct investment flows from IMF op.cit., various issues. For **South Africa**, United Nations, op. cit. and IMF, op. cit. For **Spain**, for 1967-80, stocks estimated from cumulative inward direct investment flows from IMF, op.cit., various issues; 1980 and 1988 actual stocks, plus cumulative 1989 and 1990 inward direct investment flows from IMF, op.cit. For **Sweden**, United Nations, op.cit., and stocks plus cumulative inward direct investment flows from IMF, op.cit., various issues. For **Switzerland**, for years prior to 1985, Union Bank of Switzerland, Switzerland in Figures, and revised, unpublished data for years prior to 1982; for 1985-90, IMF, op.cit. For the **United Kingdom**, Central Statistical Office, United Kingdom Balance of Payments (the "Pink Book"), various years. For the **United States**, U.S. Department of Commerce, Bureau of Economic Analysis, Selected Data on U.S. Direct Investment Abroad, 1950-76, and Survey of Current Business, August 1985 and August 1992. For other European countries, stocks and cumulative inward direct investment flows from IMF, op. cit., various issues. For developing countries, United Nations op.cit. (based on data from OECD, Development Cooperation, various issues), and cumulative inward direct investment flows from IMF, op.cit., with adjustments for Saudi Arabia and other Middle Eastern countries (see footnote h). For **Hong Kong** (Other Asian Countries), U.N., op.cit., and estimated for years after 1978 based on source country data on direct investment abroad by country of destination. For **Taiwan** (Other Asian Countries), stocks estimated based on source country data on direct investment abroad by country of destination, and data from Taiwan's Ministry of Economic Affairs, Investment Commission.

Table 2-6
World Inward FDI Stock in 15 Largest Host Countries, Ranked by Size in 1980, 1985 & 1990*
(In billions of dollars, rank, or percent)

	Amount at Yearend 1990	Rank			Percent Distribution		
		1990	1985	1980	1990	1985	1980
All Countries	$1,638.9	---	---	---	100.0%	100.0%	100.0%
United States	396.7	1	1	1	24.2	25.4	16.4
United Kingdom	205.6	2	2	2	12.5	8.6	12.5
Germany	132.5	3	4	4	8.1	6.8	9.5
Canada	108.0	4	3	3	6.6	8.6	10.2
France a)	71.8	5	5	6	4.4	4.4	4.2
Australia	70.2	6	6	5	4.3	3.4	4.9
Netherlands	62.8	7	7	7	3.8	3.4	3.8
Italy	60.0	8	9	13	3.7	2.8	1.8
Spain a)	55.9	9	12	12	3.4	1.8	1.8
Switzerland	43.4	10	11	9	2.6	2.0	2.8
Brazil	31.1	11	8	10	1.9	3.3	2.8
Belgium	30.5	12	b)	14	1.9	1.1	1.5
Singapore	29.0	13	13	15	1.8	1.6	1.2
Mexico	28.9	14	10	11	1.8	2.2	2.1
Hong Kong	21.3	15	c)	d)	1.3	1.2	0.6
Subtotal	1,347.7	---	---	---	82.2	73.2	76.1
Other Countries	291.2	---	---	---	17.8	26.8	23.9

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* If Japan included reinvested earnings of foreign-owned affiliates in their stock data, we estimate that Japan's stock of inward direct investment in 1990 would have been about $30 billion, or about the same as Belgium's.

a) Of the countries shown separately in this table, reinvested earnings data are not collected by France or Spain. If reinvested earnings data were included, we estimate that France's inward direct investment position or stock would have been about $91 billion, and Spain's about $73 billion.

b) The inward stock of Belgium was $8.3 billion in 1985, not among the top 15 host countries at that time.

c) Hong Kong's inward stock was $9.0 billion in 1985, not among the top 15 host countries at that time.

d) Hong Kong's inward stock is estimated at $3 billion in 1980, not high enough to rank among the top 15 host countries.

Sources: See sources for Appendix C, Table 2-4; also International Monetary Fund (IMF), Foreign Private Investment in Developing Countries, Occasional Paper No. 33, January 1985, and IMF, Balance of Payments Statistics Yearbook, various issues.

Table 2-7
Recent Trends in Japanese Outward FDI by Country and Region, 1980, 1985, & 1991
(In millions of dollars or percent)

	Cumulative Value			Distribution			Average Annual Rate of Growth	
	1980	1985	1991	1980	1985	1991	1980-85	1985-91
All Countries	$36,497	$83,649	$352,392	100.0%	100.0%	100.0%	18.0%	27.1%
Western Hemisphere	15,966	42,601	198,829	43.7	50.9	56.4	21.7	29.3
United States	8,878	25,290	148,554	24.3	30.2	42.2	23.3	34.3
Canada	921	1,675	6,454	2.5	2.0	1.8	12.7	25.2
Latin America	6,167	15,636	43,821	16.9	18.7	12.4	20.5	18.7
Bahamas	56	455	3,562	0.2	0.5	1.0	52.0	40.9
Brazil	2,908	4,587	6,731	8.0	5.5	1.9	9.5	6.6
Cayman Islands	183	349	7,489	0.5	0.4	2.1	13.8	66.7
Mexico	818	1,330	2,067	2.2	1.6	0.6	10.2	7.6
Panama	829	6,440	17,801	2.3	7.7	5.1	50.7	18.5
Other Countries	1,373	2,475	6,171	3.8	3.0	1.8	12.5	16.4
Europe	4,470	11,002	68,636	12.2	13.2	19.5	19.7	35.7
Belgium and Luxembourg	398	1,959	7,814	1.1	2.3	2.2	37.5	25.9
France	384	819	4,973	1.1	1.0	1.4	16.4	35.1
Germany	497	1,343	5,805	1.4	1.6	1.6	22.0	27.6
Ireland	149	260	716	0.4	0.3	0.2	11.8	18.4
Italy	67	180	1,222	0.2	0.2	0.3	21.9	37.6
Netherlands	298	1,687	14,776	0.8	2.0	4.2	41.4	43.6
Spain	173	514	2,245	0.5	0.6	0.6	24.3	27.9
Switzerland	191	663	2,558	0.5	0.8	0.7	28.3	25.2
United Kingdom	2,009	3,141	26,186	5.5	3.8	7.4	9.3	42.4
USSR	192	193	299	0.5	0.2	0.1	0.1	7.6
Other Countries	112	243	2,042	0.3	0.3	0.6	16.8	42.6
Asia	12,088	22,435	56,977	33.1	26.8	16.2	13.2	16.8
Middle East	2,258	2,972	3,522	6.2	3.6	1.0	5.6	2.9
Iran	1,001	1,003	1,007	2.7	1.2	0.3	(*)	0.1
Saudi Arabia and Kuwait	1,023	1,268	1,467	2.8	1.5	0.4	4.4	2.5
Other Countries	234	701	1,056	0.6	0.8	0.3	24.5	7.1
Other Asia and Pacific	9,830	19,463	53,455	26.9	23.3	15.2	14.6	18.3
China	26	287	3,402	0.1	0.3	1.0	61.7	51.0
Hong Kong	1,095	2,931	10,775	3.0	3.5	3.1	21.8	24.2
Indonesia	4,423	8,423	12,733	12.1	10.1	3.6	13.7	7.1
Malaysia	650	1,125	4,111	1.8	1.3	1.2	11.6	24.1
Philippines	569	892	1,783	1.6	1.1	0.5	9.4	12.2
Singapore	939	2,269	7,168	2.6	2.7	2.0	19.3	21.1
South Korea	1,137	1,683	4,398	3.1	2.0	1.2	8.2	17.4
Taiwan	370	761	3,135	1.0	0.9	0.9	15.5	26.6
Thailand	422	760	5,229	1.2	0.9	1.5	12.5	37.9
Other Countries	199	332	721	0.5	0.4	0.2	10.8	13.8

Table 2-7 (continued)
Recent Trends in Japanese Outward FDI, by Country or Region, 1980, 1985, & 1991
(In millions of dollars or percent)

	Cumulative Value			Distribution			Average Annual Rate of Growth	
	1980	1985	1991	1980	1985	1991	1980-85	1985-91
Oceania	2,525	4,242	21,376	6.9	5.1	6.1	10.9	30.9
Australia	2,164	3,621	18,613	5.9	4.3	5.3	10.8	31.4
New Zealand	126	261	1,161	0.3	0.3	0.3	15.7	28.2
Other Countries	235	360	1,602	0.6	0.4	0.5	8.9	28.3
Africa	1,445	3,369	6,574	4.0	4.0	1.9	18.4	11.8
Liberia	791	2,455	5,539	2.2	2.9	1.6	25.4	14.5
Nigeria	153	157	159	0.4	0.2	0.0	0.5	0.2
Zaire	244	282	282	0.7	0.3	0.1	2.9	0.0
Other Countries	257	475	594	0.7	0.6	0.2	13.1	3.8

(*) - Less than one-tenth of one percent.
Note: These data are based on approvals and notifications reports filed by Japanese investors with the Ministry of Finance. These data differ from the external assets data shown for Japan in Appendix C, Table 2-1 because they do not necessarily represent completed transactions as do the external assets data. Unfortunately, external assets data from the Bank of Japan are not available by country or industry.
Source: Government of Japan, Ministry of Finance.

Table 4A-1
All Industries, All Manufacturing Industries, and 30 Industries with the Highest Shares of Employment Accounted for by Affiliates of Foreign Companies: Affiliate Shares in 1987

		U.S. affiliates as a percentage of all U.S. businesses			
SIC Code	Industry	Establish-ments	Employ-ment	Pay-Payroll	Shipments or sales
	All Industries	1.1	3.7	4.7	n.a.
	All Manufacturing	2.2	6.9	7.7	9.6
3241	Cement, hydraulic	40.4	61.2	62.6	66.8
2824	Organic fibers, noncellulosic	33.8	60.4	63.7	62.4
3313	Electrometallurgical products	33.3	57.5	57.4	48.1
1031	Lead and zinc ores	33.3	54.7	47.2	55.7
1474	Potash, soda, and borate minerals	33.3	49.6	48.7	48.6
2813	Industrial gases	37.4	44.5	43.6	35.2
1446	Industrial sand	21.5	43.8	46.1	44.8
2085	Distilled and blended liquors	27.8	43.0	47.4	45.8
2879	Agricultural chemicals, nec	10.8	42.0	49.0	41.2
3651	Household audio and video equipment .	4.8	39.7	42.8	59.5
3339	Primary nonferrous metals, nec	20.4	35.3	31.4	59.5
145	Clay, ceramic, and refractory minerals .	14.7	34.1	37.0	32.8
2836	Biological products except diagnostic . .	7.9	32.6	38.3	39.1
2843	Surface active agents	12.9	31.6	33.7	39.7
2284	Thread mills	13.6	31.6	31.9	27.5
104	Gold and silver ores	13.2	30.5	28.5	30.0
3251	Brick and structural clay tile	19.9	30.3	30.3	29.8
1099	Metal ores, nec	13.0	28.7	52.3	24.4
3624	Carbon and graphite products	14.7	28.1	30.7	31.4
3356	Nonferrous rolling and drawing, nec . .	14.5	26.9	26.9	30.8
3554	Paper industries machinery	7.6	26.6	29.4	35.1
3661	Telephone and telegraph apparatus . . .	8.5	25.1	22.3	22.8
3562	Ball and roller bearings	19.5	24.8	23.7	21.7
3676	Electronic resistors	16.1	24.4	21.3	20.1
3297	Nonclay refractories	13.3	24.2	26.6	21.6
2754	Commercial printing, gravure	5.4	23.6	24.2	28.0
2869	Industrial organic chemicals, nec	15.5	23.5	24.3	25.6
605	Functions closely related to banking . .	6.9	23.4	33.1	n.a.
461	Pipelines, except natural gas	34.4	22.4	23.2	n.a.
3315	Steel wire and related products	9.9	21.8	21.2	22.9

n.a. not applicable or not available.

Note: Ranking based on published data. Not available for this purpose are data on many industries for whom pulication of the data would disclose individual company information.

Source: U.S. Department of Commerce, Economics and Statistics Administration, Foreign Direct Investment in the United States, Establishment Data for 1987 (June 1992), Table 1.1.

Table 4A-2
Shares of Employment in 1990 by Nonbank Affiliates by Industry of Affiliate: U.S. Affiliates of Foreign Companies and Foreign Affiliates of U.S. Companies
(In percent or thousands)

Industry	U.S. Affiliates of Foreign Companies	Foreign Affiliates of U.S. Companies
Total employment, in thousands	4,705.3	6,706.3
Petroleum	3.2	3.5
Manufacturing	46.7	64.2
Food and kindred products	5.3	6.8
Chemicals and allied products	10.8	8.7
Metals	5.7	3.4
Nonelectric machinery	4.5	8.3
Electric and electronic equipment	6.3	10.4
Transportation equipment	1.8	13.2
Other manufacturing	12.3	13.5
Wholesale trade	9.3	8.2
Finance, insurance, and real estate	4.8	2.5
Services	11.8	7.1
Other industries	24.2	14.4

Source: U.S. Department of Commerce, Survey of Current Business, May 1992, page 59 and August 1992, page 72, and U.S. Direct Investment Abroad: Operations of U.S. Parent Companies and their Foreign Affiliates, Preliminary 1990 Estimates, Table IIG4.

Table 4A-3
Average Value Added Per Employee
Selected Categories of Industries

Industry Category	1982	1987	1988	1989	1990
		(In thousands of nominal dollars)			
All nonbank private:					
Affiliates	41.9	49.0	49.9	50.1	51.3
U.S. Total	34.8	43.6	45.8	47.2	n.a.
All manufacturing:					
Affiliates	n.a.	55.9	56.4	57.5	60.2
U.S. Total	33.5	45.8	48.2	49.4	n.a.
Manufacturing, excl. petroleum & coal prod.:					
Affiliates	38.0	48.9	49.7	51.0	53.8
U.S. Total	32.6	44.6	46.8	48.1	n.a.

n.a. Not available.

Note: The Affiliate data are on a company basis, while the U.S. total data are on an establishment basis.

Source: Calculated from data from U.S. Department of Commerce, Bureau of Economic Analysis.

Table 4A-4
Average Value Added Per Employee for Affiliates and U.S. Industry Totals in Manufacturing Industries in 1989
(In thousands of current dollars)

	Value added per employee		
Industry	Affiliates	U.S. Total	Ratio of affiliates to total
Instruments & related products	45.4	29.5	153.9
Rubber & misc. plastics products	43.7	34.9	125.3
Textile products and apparel	31.0	24.9	124.4
Fabricated metal products	54.0	46.8	115.3
Stone, clay, & glass products	52.4	45.9	114.1
Lumber, wood, furniture & fixtures	38.7	36.9	105.0
Paper and allied products	68.5	67.2	101.9
Primary metal industries	58.5	57.6	101.5
Nonelectric machinery	44.2	45.5	97.3
Printing and publishing	40.1	42.8	93.8
Petroleum and coal products	190.9	218.8	87.2
Chemicals & allied products	74.3	91.9	80.8
Food and kindred products	38.7	49.4	78.3
Other manufacturing	47.0	60.8	77.3
Electric & electronic equipment	40.8	55.3	73.8
Other transportation equipment	34.2	52.0	65.8
Motor Vehicles	37.9	59.0	64.2

Source: Calculated from data from U.S. Department of Commerce, Bureau of Economic Analysis.

Note: The averages for the affiliates were calculated from data on an enterprise basis, while the averages for the industry totals were calculated from data on an establishment basis. The price deflators are from the industry total data, which are establishment-based.

Table 4B-1
Selected Assets and Liabilities of U.S. Offices of Foreign Banks*

	Amount ($billions)				Shares of U.S. Totals** (percent)			
Year	Total Assets	Total Loans	Business Loans	Total Deposits	Total Assets	Total Loans	Business Loans	Total Deposits
Dec. 1973	32.3	17.6	12.8	11.4	3.8	3.7	7.6	1.7
Dec. 1974	46.1	27.0	18.8	17.0	4.9	5.1	9.5	2.3
Dec. 1975	52.4	29.9	19.9	22.6	5.3	5.7	10.4	2.9
Dec. 1976	61.3	35.4	19.7	26.1	5.8	6.4	10.2	3.1
Dec. 1977	76.8	41.5	22.0	33.8	6.4	6.6	10.3	3.6
Dec. 1978	109.1	65.3	32.7	46.3	8.0	8.8	13.1	4.4
Dec. 1979	149.6	91.9	48.2	62.8	9.9	10.9	16.3	5.6
Dec. 1980	200.6	121.4	59.6	80.4	11.9	13.4	18.2	6.6
Dec. 1981	250.6	157.7	73.6	101.8	13.5	15.4	19.2	7.7
Dec. 1982	299.8	185.2	82.4	154.3	14.4	16.3	18.8	10.4
Dec. 1983	328.8	192.4	84.5	181.3	14.6	15.6	18.3	11.1
Dec. 1984	394.4	220.1	97.8	233.7	15.9	15.1	21.6	12.9
Dec. 1985	440.8	247.4	108.8	236.7	16.1	15.4	22.5	12.1
Dec. 1986	524.3	276.9	126.8	278.2	17.3	15.6	23.4	12.8
Dec. 1987	592.6	310.9	147.9	316.1	19.0	16.6	26.4	14.1
Dec. 1988	650.6	338.8	167.3	335.1	19.6	16.9	28.2	14.1
Dec. 1989	735.7	369.8	184.3	376.1	20.6	17.2	29.4	14.9
Dec. 1990	791.1	397.9	193.3	383.9	21.4	18.0	30.8	14.5
Dec. 1991	860.7	412.3	206.4	444.5	22.6	18.9	34.5	16.2
Dec. 1992	862.6	404.8	207.7	456.6	22.0	18.7	35.4	16.4

* Data include U.S. agencies and branches of foreign banks, subsidiary commercial banks, and New York investment companies, but not Edge Act or Agreement Corporations. U.S. offices of Puerto Rican banks are not included. Assets and liabilities include those on the books of International Banking Facilities (IBFs).

** Amount shown in this table as percent of total amount shown in Statistical Appendix C, Table 4B-4.

Source: Federal Reserve Board, April 1993.

Table 4B-2
Selected Assets and Liabilities of U.S. Branches and Agencies of Foreign Banks*

	Amount ($billions)				Shares of U.S. Totals** (percent)			
Year	Total Assets	Total Loans	Business Loans	Total Deposits	Total Assets	Total Loans	Business Loans	Total Deposits
Dec. 1973	25.2	13.5	10.2	5.8	2.9	2.9	6.0	0.8
Dec. 1974	34.0	20.3	15.0	7.6	3.6	3.9	7.5	1.0
Dec. 1975	38.2	22.0	15.5	11.0	3.9	4.2	8.1	1.4
Dec. 1976	45.7	27.0	15.5	13.7	4.3	4.9	8.0	1.6
Dec. 1977	59.1	32.2	17.6	19.7	5.0	5.1	8.2	2.1
Dec. 1978	86.8	53.4	26.9	28.5	6.4	7.2	10.8	2.7
Dec. 1979	113.5	70.9	38.4	35.4	7.5	8.4	13.0	3.2
Dec. 1980	147.2	90.9	45.6	41.5	8.8	10.0	13.9	3.4
Dec. 1981	172.0	108.3	53.0	48.4	9.2	10.6	13.8	3.7
Dec. 1982	207.4	126.9	56.9	91.1	10.0	11.1	13.0	6.1
Dec. 1983	227.9	127.8	56.3	112.1	10.1	10.3	12.2	6.8
Dec. 1984	272.0	139.8	64.4	147.2	11.0	9.6	14.2	8.1
Dec. 1985	311.6	163.4	73.0	145.4	11.4	10.2	15.1	7.4
Dec. 1986	396.9	193.3	90.2	189.8	13.1	10.9	16.6	8.7
Dec. 1987	460.7	219.7	108.5	224.9	14.8	11.7	19.4	10.0
Dec. 1988	513.5	243.0	124.8	241.4	15.5	12.1	21.0	10.2
Dec. 1989	579.5	261.1	138.2	269.7	16.3	12.1	22.1	10.7
Dec. 1990	627.2	285.7	147.4	273.3	16.9	12.9	23.5	10.3
Dec. 1991	699.9	309.6	165.0	334.9	18.3	14.2	27.5	12.2
Dec. 1992	712.5	309.9	167.9	357.6	18.2	14.3	28.6	12.8

* Data include U.S. agencies and branches of foreign banks. U.S. offices of Puerto Rican banks are not included. Assets and liabilities include those on the books of International Banking Facilities (IBFs).

** Amount shown in this table as percent of total amount shown in Statistical Appendix C, Table 4B-4.

Source: Federal Reserve Board, April 1993.

Table 4B-3
Selected Assets and Liabilities of U.S. Subsidiaries of Foreign Banks*

	Amount ($billions)				Shares of U.S. Totals** (percent)			
	Total Assets	Total Loans	Business Loans	Total Deposits	Total Assets	Total Loans	Business Loans	Total Deposits
Dec. 1973	5.4	3.0	1.8	4.5	0.6	0.6	1.1	0.7
Dec. 1974	9.9	5.4	2.8	8.0	1.0	1.0	1.4	1.1
Dec. 1975	11.6	6.5	3.3	9.7	1.2	1.2	1.7	1.2
Dec. 1976	13.5	7.5	3.7	11.2	1.3	1.4	1.9	1.3
Dec. 1977	15.6	8.4	3.9	13.0	1.3	1.3	1.8	1.4
Dec. 1978	20.0	10.8	2.1	16.5	1.5	1.5	0.8	1.6
Dec. 1979	33.4	19.5	9.0	26.1	2.2	2.3	3.0	2.3
Dec. 1980	50.2	28.6	12.9	37.6	3.0	3.1	3.9	3.1
Dec. 1981	75.7	47.4	19.6	52.7	4.1	4.6	5.1	4.0
Dec. 1982	89.3	56.2	24.2	62.7	4.3	4.9	5.5	4.2
Dec. 1983	97.7	62.2	26.8	68.5	4.3	5.0	5.8	4.2
Dec. 1984	119.4	78.1	32.1	86.0	4.8	5.4	7.1	4.7
Dec. 1985	125.9	81.5	34.2	90.8	4.6	5.1	7.1	4.6
Dec. 1986	124.0	81.0	34.9	87.9	4.1	4.6	6.4	4.0
Dec. 1987	128.0	88.2	37.6	91.0	4.1	4.7	6.7	4.1
Dec. 1988	132.4	92.5	40.6	93.3	4.0	4.6	6.8	3.9
Dec. 1989	151.5	105.2	44.1	105.0	4.3	4.9	7.0	4.2
Dec. 1990	159.9	109.9	44.5	110.3	4.3	5.0	7.1	4.2
Dec. 1991	157.3	101.1	40.6	109.4	4.1	4.6	6.8	4.0
Dec. 1992	147.4	93.1	39.1	98.8	3.8	4.3	6.7	3.5

* Assets and liabilities include those on the books of International Banking Facilities (IBFs).

** Amount shown in this table as percent of total amount shown in Statistical Appendix C, Table 4B-4.

Source: Federal Reserve Board, April 1993.

Table 4B-4
Selected Assets and Liabilities of "Domestically Owned" Commercial Banks Plus U.S. Offices of Foreign Banks*

	"Domestically Owned" Commercial Banks** ($billions)				U.S. Totals*** ($billions)			
Year	Total Assets	Total Loans	Business Loans	Total Deposits	Total Assets	Total Loans	Business Loans	Total Deposits
Dec. 1973	823.5	453.8	155.9	674.0	855.7	471.3	168.7	685.3
Dec. 1974	898.4	497.4	180.0	734.8	944.5	525.4	198.8	751.8
Dec. 1975	935.6	491.8	171.1	767.2	988.0	521.7	191.0	789.8
Dec. 1976	993.1	513.5	173.6	815.7	1,054.5	548.9	193.3	841.8
Dec. 1977	1,116.8	585.5	191.6	911.2	1,193.5	627.0	213.6	945.0
Dec. 1978	1,246.9	675.9	217.3	994.5	1,356.0	741.2	250.0	1,040.9
Dec. 1979	1,363.4	751.7	247.1	1,060.8	1,513.0	843.6	295.3	1,123.5
Dec. 1980	1,479.6	787.8	268.2	1,146.1	1,680.2	909.1	327.7	1,226.6
Dec. 1981	1,611.7	864.7	310.0	1,221.0	1,862.3	1,022.4	383.6	1,322.8
Dec. 1982	1,777.8	953.6	356.8	1,334.3	2,077.6	1,138.8	439.2	1,488.5
Dec. 1983	1,922.3	1,043.2	376.6	1,458.7	2,251.1	1,235.6	461.1	1,640.0
Dec. 1984	2,087.9	1,234.5	355.0	1,582.3	2,482.3	1,454.6	452.7	1,816.0
Dec. 1985	2,289.7	1,355.3	374.8	1,726.6	2,730.5	1,602.6	483.6	1,963.4
Dec. 1986	2,499.8	1,493.4	416.2	1,902.3	3,024.1	1,770.3	543.0	2,180.5
Dec. 1987	2,524.3	1,560.8	411.7	1,924.6	3,116.9	1,871.8	559.6	2,240.7
Dec. 1988	2,668.9	1,666.3	426.7	2,040.6	3,319.5	2,005.1	594.0	2,375.8
Dec. 1989	2,828.0	1,780.5	442.3	2,152.3	3,563.7	2,150.3	626.6	2,528.4
Dec. 1990	2,909.3	1,812.9	435.1	2,262.4	3,700.4	2,210.8	628.4	2,646.3
Dec. 1991	2,954.3	1,766.2	392.7	2,293.7	3,815.0	2,178.5	599.1	2,738.2
Dec. 1992	3,050.0	1,758.5	378.9	2,330.3	3,912.6	2,163.3	586.6	2,786.9

* Assets and liabilities include those on the books of International Banking Facilities (IBFs).

** Excludes commercial banks with more than 25 percent foreign ownership, but includes commercial banks owned by non-bank foreigners.

*** Includes "domestically owned" commercial banks, U.S. agencies and branches of foreign banks, and commercial banks and New York investment companies with more than 25 percent foreign bank ownership, but not Edge Act or Agreement Corporations. U.S. offices of Puerto Rican banks are not included.

Source: Federal Reserve Board, April 1993.

Table 4B-5

TOP 50 U.S. BANK HOLDING COMPANIES

Assets and Risk-Based Capital Measures

(1992 Capital Rules, June 30, 1992 data, Millions of Dollars))

Bank Holding Company	U.S. Asset Rank	Total U.S. Assets	Risk Weighed Assets	Tier 1 Capital	Total Capital	Tier 1 Capital Ratio	Total Capital Ratio	Tier 1 Leverage Ratio	Market Price to Book Value per Share (%)		
Top Ten									12/31/90	6/30/92	12/31/92
Banc One Corp.	10	48,420	40,181	3,999	5,101	9.95	12.68	8.38	153.3	228.8	248.9
Bankers Trust New York Corp.	7	74,685	48,075	3,487	6,374	7.14	13.03	4.60	141.3	156.5	173.4
BankAmerica Corp.	2	188,582	172,979	10,930	18,414	6.20	10.40	6.52	97.4	129.5	129.6
Chase Manhattan Corp.	6	97,428	93,667	5,852	10,165	6.25	10.85	5.88	35.5	87.8	88.4
Chemical Banking Corp.	3	142,405	128,251	8,930	14,211	6.96	11.08	6.51	32.8	119.7	119.1
Citicorp	1	219,312	219,584	9,490	18,980	4.30	8.60	4.26	51.9	98.1	102.3
First Interstate Bancorp.	9	49,499	34,288	2,841	4,515	8.28	13.17	5.86	59.1	125.1	133.4
Morgan (J.P.) & Co.	5	107,528	83,578	6,333	9,770	7.54	11.62	5.49	175.5	175.7	191.7
NationsBank	4	110,678	86,740	6,705	10,420	7.72	12.00	6.05	83.8	164.4	166.8
Wells Fargo & Co.	8	52,111	43,374	3,040	5,213	7.01	12.02	5.86	100.8	136.1	133.0
Regionals											
Bancorp Hawaii	47	11,775	7,657	757	854	9.89	11.15	6.58	124.6	168.8	149.1
Bank of Boston Corp.	20	32,277	29,158	1,760	3,030	6.04	10.39	5.68	32.5	124.4	120.6
Bank of New York Co.	15	41,337	41,935	2,932	4,481	6.99	10.69	7.15	50.1	110.1	141.0
Bank of Montreal*	38	16,647	11,855	1,190	1,426	10.04	12.03	6.10	NT	NT	NT
Barnett Banks, Inc.	19	32,380	24,138	1,947	2,856	8.07	11.83	5.99	70.7	133.1	162.4
Boatmen's Bancshares	33	19,744	13,262	1,340	1,727	10.11	13.02	7.09	96.0	135.7	150.8
Comerica	26	26,755	20,831	1,769	2,280	8.49	10.95	6.91	95.7	180.9	184.5
Continental Bank Corp.	27	23,677	23,642	1,596	2,288	6.75	9.68	7.24	37.4	81.5	89.9
CoreStates Financial Corp.	32	21,588	18,169	1,558	2,309	8.57	12.71	7.40	125.0	168.5	195.9
Crestar Financial Corp	48	11,539	9,329	795	1,038	8.51	11.10	6.80	59.4	125.7	154.5
First of America	34	19,452	13,179	1,159	1,506	8.80	11.43	6.06	92.0	150.7	168.4
First Bank System	36	17,766	16,936	1,509	2,072	8.91	12.24	8.51	97.6	167.8	155.7
First Chicago Corp.	12	47,391	47,937	3,235	5,366	6.75	11.19	6.06	45.5	100.8	110.7
First Fidelity Bancorp.	23	29,333	19,111	1,858	2,529	9.72	13.24	6.46	79.3	147.3	161.0
First Union Corp.	11	47,720	32,495	2,893	4,473	8.90	13.76	6.09	74.2	154.5	167.3
Firstar Corporation	45	11,939	9,020	910	1,132	10.09	12.55	7.70	72.5	182.9	197.6
Fleet Financial Group, Inc.	14	44,624	28,132	2,849	4,206	10.13	14.95	6.34	62.3	158.5	167.9
Huntington Bancshares, Inc.	44	12,682	9,575	867	1,088	9.06	11.36	6.87	87.2	219.4	186.5
KeyCorp	29	23,118	17,125	1,371	1,823	8.00	10.65	6.03	139.1	168.5	189.8
Marine Midland Banks (HKSB)*	40	16,547	12,511	1,089	1,999	8.70	15.98	6.68	NT	NT	NT
Mellon Bank Corp.	24	29,180	25,875	2,069	3,119	8.00	12.06	7.01	83.3	122.8	143.4
Meridian Bancorp, Inc.	46	11,912	9,780	803	1,004	8.21	10.27	6.88	60.5	143.1	160.7
Michigan National Corp.	50	10,635	7,808	765	924	9.79	11.83	7.04	33.5	88.4	95.5
Midlantic Corp.	41	16,351	13,116	601	1,061	4.59	8.09	3.61	15.6	85.2	115.6
MNC Financial, Inc.	39	16,597	12,784	995	1,380	7.78	10.80	5.96	28.5	104.5	118.8
National City Corp.	25	28,627	23,017	2,222	2,782	9.65	12.09	7.78	115.0	163.7	170.6
National Westminster*	30	22,707	17,590	1,283	2,116	7.29	12.03	5.90	NT	NT	NT
Northern Trust	43	12,796	9,755	780	1,170	8.00	12.00	5.83	170.1	266.7	264.0
Norwest Corp.	16	40,575	25,339	2,814	3,692	11.10	14.57	6.95	142.0	201.2	221.3
NBD Bancorp	22	31,019	23,820	1,992	2,780	8.36	11.67	6.51	132.1	150.4	178.6
PNC Financial Corp.	13	45,455	33,002	3,447	4,205	10.45	12.74	8.09	80.7	169.5	178.6
Republic New York Corp.	18	33,350	13,099	1,943	3,479	14.82	26.53	6.03	124.0	127.5	143.7
Shawmut National Corp.	31	22,639	16,438	1,190	1,836	7.24	11.17	5.43	31.1	130.4	130.4
Signet Banking Corp.	49	11,218	7,967	749	1,113	9.39	13.97	6.63	37.5	141.4	152.3
Society Corp.	28	23,528	19,280	1,575	2,179	8.16	11.28	6.78	105.1	200.7	207.4
State Street Boston Corp	37	17,011	8,122	876	1,008	10.72	12.29	5.68	183.4	303.0	344.5
SunTrust Banks, Inc.	17	34,483	25,706	2,440	3,199	9.49	12.44	7.17	125.1	196.7	202.1
U.S. Bancorp	35	19,284	17,007	1,340	1,853	7.88	10.89	7.17	103.1	160.7	176.5
UJB Financial Corp.	42	13,643	10,178	808	958	7.94	9.41	6.05	41.4	114.5	138.6
Wachovia Corp.	21	31,445	26,361	2,593	3,062	9.84	11.61	8.27	148.9	200.0	210.9
TOP TEN TOTAL		1,090,648	950,717	61,605	103,164	6.44	10.78	5.72	89.3	140.0	146.1
REGIONALS TOTAL		980,745	752,039	64,669	91,403	8.60	12.15	6.64	83.2	146.9	161.6
* U.S. Subsidiaries of Foreign Banks		55,901	41,956	3,562	5,541	8.49	13.21	6.37	NT	NT	NT
U.S. TOP 50 TOTAL		2,071,394	1,702,756	126,274	194,567	7.39	11.38	6.16	84.7	145.1	157.3

Notes: NT = not traded; Leverage is the ratio of Tier 1 or "core" capital to average total assets net of goodwill; and U.S. capital requirements are applied at the individual bank establishment level. Data are for June 30, 1992 except where otherwise noted.

Source: Federal Reserve Board, Division of Banking Supervision and Regulation, Financial Condition of the Largest Bank Holding Companies, 1992 Review, Tables 4, 29, and 40.

Table 4B-6

TOP 25 U.S. OFFICES OF FOREIGN BANKS

Assets and Business Lending
(Millions of Dollars)

Bank Family	World Rank	U.S. Share of Parent Assets	1991 Values		1990-91 Value Changes	
			Assets	C&I Loans	Assets	C&I Loans
Bank of Tokyo	22	23.3	50,970	11,738	3,775	(458)
Mitsubishi Bank	6	10.7	41,933	9,063	(5,926)	(262)
Sanwa Bank	5	8.8	36,353	7,888	(912)	(1,214)
Industrial Bank of Japan	10	11.5	34,888	10,254	1,005	1,191
Fuji Bank	4	8.1	34,017	8,674	2,921	312
Dai-Ichi Kangyo Bank	1	6.8	30,320	7,152	(686)	(1,289)
Sumitomo Bank	2	7.1	30,268	8,007	1,209	(126)
National Westminster	18	11.1	25,524	8,475	(1,517)	(1,564)
Bank of Montreal	66	25.0	21,098	6,458	2,610	803
Marine Midland Banks (HKSB)	40	16.9	20,352	3,658	(669)	(666)
Sakura Bank	3	4.6	19,163	6,727	218	(2,362)
Bank of Nova Scotia	74	21.8	16,134	7,769	8,859	6,044
Swiss Bank Corp.	33	10.5	16,028	2,362	4,537	737
Credit Lyonnais	9	5.1	15,625	386	7,065	(111)
Tokai Bank	14	6.1	15,511	4,751	(1,619)	29
Yasuda Trust & Banking	29	8.1	14,727	3,465	2,466	(197)
Long Term Credit Bank of Japan	23	6.6	14,575	7,167	(198)	502
Societe Generale	18	6.4	14,327	4,224	7,825	3,580
Algemene Bank Nederland	16	5.9	14,241	6,089	7,351	4,831
Union Bank of Switzerland	28	7.6	13,911	6,736	5,646	5,988
Barclays Group	13	5.4	13,859	1,532	2,514	(539)
MItsui Trust & Banking	19	5.5	12,392	3,224	(838)	(1,902)
Banque Nationale de Paris	12	4.5	12,361	2,133	2,372	(429)
Mitsubishi Trust & Banking	15	4.5	11,219	3,852	(2,410)	(315)
Banco di Roma	80	15.3	10,639	2,503	424	(484)
TOP 25 TOTAL		8.5	540,434	144,288	46,022	12,101
13 Japanese Banks in TOP 25		12.2	346,335	91,961	(995)	(6,090)
Other TOP 25		5.5	194,099	52,326	47,017	18,191
All Foreign Offices			863,287	206,722	69,718	13,272
Japanese Office Totals			428,116	113,167	(8,159)	(7,135)
NonJapanese Office Totals			435,171	93,555	77,877	20,407

Sources: FFIEC Call Reports. World ranks and total parent assets used to calculate shares of parent assets are from *American Banker*.

Table 4B-7A
Commercial Bank Risk-Based Premium System
FDIC Deposit Insurance Rate Schedule
(June 30, 1992 data)

		Rate Schedule (cents per $100)			Weighted Average Rates
		Supervisory Subgroups			
Capital Category	Capital Requirements*	A	B	C	
Well Capitalized..............	10/6/5	23	26	29	24.0
Adequately Capitalized.......	8/4/4	26	29	30	28.5
Undercapitalized..............	< 8/4/4	29	30	31	30.7
		Average of all insured banks			25.4

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* Numbers in this column refer, respectively, to minimum risk-adjusted total and "Tier 1" or "core" capital to asset ratios, and the "Tier 1" leverage ratio. Leverage is defined as the ratio of "Tier 1" capital to average total assets net of goodwill.

"Tier 1" or "core" capital consists of common stockholders' equity; qualifying noncumulative perpetual preferred stock; and minority interests in the equity accounts of consolidated subsidiaries minus goodwill.

"Tier 2" or supplementary capital consists of qualifying loan and lease loss reserves; perpetual preferred stock; mandatory convertible notes; mandatory convertible notes; perpetual debt; and subordinated term debt minus 50 percent of the investment in certain subsidiaries and minus 50 percent of the reciprocal holdings of the capital instruments of other banking companies.

Source: FDIC, Federal Register, Vol. 57, No. 191, October 1, 1992.

Table 4B-7B
Bank Characteristics by Capital and Supervisory Risk Categories
(June 30, 1992 data)

	Supervisory Subgroups*			
Capital Category	A	B	C	Totals
		Number of Banks**		
Well Capitalized..........	9,115	1,766	363	11,244
Adequately Capitalized....	192	164	174	530
Undercapitalized..........	18	26	222	266
			Total	12,040
		Assets ($Billions)		
Well Capitalized..........	1,721	470	123	2,314
Adequately Capitalized....	229	568	336	1,133
Undercapitalized..........	17	9	75	101
			Total	3,548
		Deposit Base ($Billions)		
Well Capitalized..........	1,215	361	94	1,670
Adequately Capitalized....	158	321	157	636
Undercapitalized..........	8	3	65	76
			Total	2,382

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* In addition to the capital categories, the FDIC assigns each institution to one of three subgroups based on an evaluation of the risk posed by the institution. Group "A" is for institutions that are financially sound and with only a few minor weaknesses. Group "B" is for institutions with weaknesses which, if no corrected, could result in significant deterioration of the institution and increased risk to the insurance fund. Group "C" is for institutions that pose a substantial probability of loss to the insurance fund unless effective corrective action is taken.

** Includes 355 savings banks as well as 11,685 commercial banks.

Source: FDIC, Office of Research and Statistics, November 19, 1992.

Table 4B-7C
Bank Characteristics by Capital and Supervisory Risk Categories For FDIC- Insured U.S. Subsidiaries of Foreign Banks
(June 30, 1992 data)

	Supervisory Subgroups*			
Capital Category	A	B	C	Totals
	Number of U.S. Subsidiaries**			
Well Capitalized...........	53	15	5	73
Adequately Capitalized....	8	2	2	12
Undercapitalized...........	0	0	0	0
			Total	85

* See note for Table 4B-7D.
** Only includes subsidiaries insured by the FDIC. Numbers are included in Statistical Appendix C, Table 4B-7B.
Source: FDIC, Office of Research and Statistics, January 28, 1993

Table 4B-7D
Bank Characteristics by Capital and Supervisory Risk Categories For FDIC-Insured U.S. Branches of Foreign Banks
(June 30, 1992 data)

	Supervisory Subgroups*			
Capital Category	A	B	C	Totals
	Number of Foreign Branches**			
Well Capitalized...........	23	10	9	42
Adequately Capitalized....	1	1	1	3
Undercapitalized...........	6	1	0	7
			Total	52

* In addition to the capital categories, the FDIC assigns each institution to one of three subgroups based on an evaluation of the risk posed by the institution. Group "A" is for institutions that are financially sound and with only a few minor weaknesses. Group "B" is for institutions with weaknesses which, if not corrected, could result in significant deterioration of the institution and increased risk to the insurance fund. Group "C" is for institutions that pose a substantial probability of loss to the insurance fund unless effective corrective action is taken.
** Only includes the 52 (out of a total of 383) branches of foreign banks with deposits insured by the FDIC. Numbers are in addition to those in Statistical Appendix C, Table 4B-7B.
Source: FDIC, Office of Research and Statistics, January 27, 1993

Table 4B-8
Loans in the United States by Type and Country
($Billions, December 1991)

	Totals			Country of Foreign Parent						
Loan Portfolio	U.S.	Domestic	Foreign	Japan	Canada	Switzerland	France	U.K.	Germany	Other
Total Loans	2178.5	1766.2	412.3	210.0	29.7	20.7	18.1	25.2	7.7	100.9
C&I	599.9	392.7	207.2	112.8	16.8	9.7	8.2	11.1	2.6	46.1
Financial	109.9	42.5	67.4	20.0	2.3	8.2	5.5	3.7	4.3	23.4
Real Estate	872.5	781.7	90.8	58.7	7.3	0.5	1.7	6.1	0.3	16.2
Other	596.3	549.4	46.9	18.6	3.3	2.3	2.7	4.2	0.5	15.2
Total Loans	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
C&I	27.5	22.2	50.3	53.7	56.5	46.9	45.2	44.2	33.8	45.7
Financial	5.0	2.4	16.3	9.5	7.6	39.6	30.2	14.7	55.8	23.2
Real Estate	40.1	44.3	22.0	27.9	24.7	2.4	9.4	24.3	3.9	16.0
Other	27.4	31.1	11.4	8.8	11.2	11.1	15.1	16.8	6.5	15.1
				Adjusted for Offshore Cayman Islands' Loans						
Total Loans	2332.1	1766.2	564.3	217.4	36.4	38.7	38.0	27.7	30.2	175.9
C&I	753.5	392.7	359.2	120.2	23.5	27.7	28.1	13.6	25.1	121.1
Financial	109.9	42.5	67.4	20.0	2.3	8.2	5.5	3.7	4.3	23.4
Real Estate	872.5	781.7	90.8	58.7	7.3	0.5	1.7	6.1	0.3	16.2
Other	596.3	549.4	46.9	18.6	3.3	2.3	2.7	4.2	0.5	15.2
Memo: Offshore Cayman Islands' Loans			152.0	7.4	6.7	18.0	19.9	2.5	22.5	75.0
Total Loans	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
C&I	32.3	22.2	63.7	55.3	64.5	71.6	73.9	49.3	83.1	68.8
Financial	4.7	2.4	11.9	9.2	6.2	21.2	14.4	13.4	14.2	13.3
Real Estate	37.4	44.3	16.1	27.0	20.2	1.3	4.5	22.1	1.0	9.2
Other	25.6	31.1	8.3	8.5	9.1	5.9	7.2	15.3	1.7	8.7

Sources: FFIEC call report data on U.S.-owned banks and FRB country tabulations on loan portfolios of U.S. offices of foreign-owned banks. Estimates of Cayman Islands' business loans from FRBNY Quarterly Review, Spring 1992.

Table 5-1
Payroll per Employee for All Establishments, Foreign-Owned Establishments, and U.S.-Owned Establishments, by Major Manufacturing Industry, 1987
(In dollars)

Industry	All establishments	Foreign-owned establishments	U.S.-owned establishments
Manufacturing	25,100	27,983	24,886
Food & kindred products	20,891	23,445	20,681
Tobacco products	33,235	(D)	(D)
Textile mill products	16,979	18,985	16,887
Apparel & other textile products	12,867	16,296	12,836
Lumber & wood products	18,194	20,168	18,154
Furniture & fixtures	17,780	16,703	17,814
Paper & allied products	27,580	28,665	27,498
Printing & publishing	22,383	24,681	22,300
Chemicals & allied products	30,733	33,375	30,026
Petroleum & coal products manufacturing	34,480	37,282	33,958
Rubber & miscellaneous plastics products	21,147	24,158	20,895
Leather & leather products	14,191	(D)	(D)
Stone, clay, & glass products	23,580	26,050	23,233
Primary metal industries	28,209	29,343	28,067
Fabricated metal products	24,005	26,152	23,911
Machinery, except electrical	27,409	27,532	27,401
Electric & electronic equipment	24,758	23,649	24,893
Transportation equipment	32,349	28,103	32,483
Instruments & related products	29,294	27,184	29,463
Miscellaneous manufacturing industries	18,392	21,312	18,220
Administrative & auxiliary	38,263	40,686	37,976

D = Suppressed to avoid disclosure of data of individual companies.

Table 5-2
Measures of Capital Intensity, Worker Skill Level, and Plant Scale:
Averages for Manufacturing Industries Grouped by Foreign-Owned Establishments' Employment Share, 1987

		Percent	Dollars		
		Capital intensity:	Worker skill level		
	Number of industries	Nonpayroll share of value added	Payroll per employee	Production worker hourly wages	Plant scale: Value added per establishment
All industries	459	60.4	23,006	9.99	11,038,387
Percentage of total industry employment accounted for by foreign-owned establishments:					
0	35	59.0	18,933	8.39	16,497,665
0.1-4.9	175	56.1	21,608	9.44	6,248,511
5.0-9.9	114	60.8	23,833	10.18	16,641,365
10.0-14.9	60	63.8	24,419	10.53	9,062,997
15.0-19.9	29	70.5	24,260	10.67	10,593,963
20.0-24.9	21	65.0	25,978	11.45	10,682,473
25.0 or more	25	66.4	27,380	11.87	16,930,380
Addendum:					
Coefficient of correlation between industry measure and foreign-owned establishments' share of employment/1/	--	0.342*	0.302*	0.293*	0.034

* Statistically significant at the 5-percent level.

1. A coefficient of correlation between two variables may take on a value between -1 and 1, with absolute values closer to 1 indicating a stronger linear relationship, and with the sign indicating whether it is a direct or inverse relationship. The Student's t test was used to determine whether the coefficients were significantly different from zero.

NOTE.--The measures of capital intensity, worker skill level, and plant scale were computed for all U.S. businesses in each of the 459 four-digit manufacturing industries using data from the Census of Manufactures. The averages shown are the unweighted averages of these measures for all industries in a given size group (defined by the share of industry employment accounted for by foreign-owned establishments).

Table 5-3
Average Employment Shares of Foreign-Owned Establishments in Manufacturing Industries Grouped by Level of Capital Intensity, by Selected Country of UBO, 1987

		Percentage of total industry employment accounted for by establishments with UBO's in--						
	Number of industries	All countries	Canada	France	Federal Republic of Germany	Japan	Netherlands	United Kingdom
All industries	459	8.5	1.1	0.7	1.0	0.6	0.6	2.2
Capital intensity:								
Nonpayroll share of value added (percent):								
Less than 40.0	5	1.4	0	1.0	0	0	0	.4
40.0-49.9	64	5.1	.5	.6	.7	.5	.8	.8
50.0-59.9	188	7.1	.8	.5	.8	.5	.3	2.2
60.0-69.9	111	8.8	1.4	.7	1.0	.8	.4	2.1
70.0-79.9	62	12.6	1.7	.9	1.7	.8	1.2	2.5
80.0 or more	29	16.7	2.4	1.0	1.2	.8	1.1	5.8
Addendum:								
Coefficient of correlation between capital intensity and foreign-owned establishments' share of employment/1/	--	0.342*	0.175*	0.044	0.105*	0.065	0.140*	0.244*

UBO = Ultimate beneficial owner

1. See footnote 1 to Appendix C, Table 5-2.

* Statistically significant at the 5-percent level.

NOTE.--The nonpayroll share of value added was computed for all U.S. businesses in each of the 459 four-digit manufacturing industries using data from the Census of Manufactures. Industries are grouped by the nonpayroll share of value added. The average employment shares shown are unweighted averages for all industries in a given size group.

Table 5-4
Average Employment Shares of Foreign-Owned Establishments in Manufacturing Industries Grouped by Level of Employee Skill, by Selected Country of UBO, 1987

		Percentage of total industry employment accounted for by establishments with UBO's in--						
	Number of industries	All countries	Canada	France	Federal Republic of Germany	Japan	Nether-lands	United Kingdom
All industries	459	8.5	1.1	0.7	1.0	0.6	0.6	2.2
Employee skill level:								
Payroll per employee (dollars):								
Less than 15,000	54	2.6	.3	.1	.2	.3	(/1/)	.7
15,000 - 19,999	99	7.3	.6	.7	.3	.9	.8	2.2
20,000 - 24,999	148	7.4	.8	.6	.8	.5	.5	2.1
25,000 - 29,999	101	12.6	1.9	.9	1.7	.6	.5	3.1
30,000 - 34,999	41	12.8	1.8	1.1	2.2	.9	.8	3.2
35,000 or more	16	9.1	2.9	.5	1.4	.9	1.1	1.0
Addendum:								
Coefficient of correlation between employee skill level and foreign-owned establishments' share of employment/2/	--	0.302*	0.196*	0.077	0.217*	0.050	0.074	0.122*

UBO = Ultimate beneficial owner

1. Less than 0.05 percent.
2. See footnote 1 to Appendix C, Table 5-2.

* Statistically significant at the 5-percent level.

NOTE.--Payroll per employee was computed for all U.S. businesses in each of the 459 four-digit manufacturing industries using data from the Census of Manufactures. Industries are grouped by the size of payroll per employee. The average employment shares shown are unweighted averages for all industries in a given size group.

Table 5-5
Average Employment Shares of Foreign-owned Establishments in Manufacturing Industries Grouped by R&D Activity, by Selected Country of UBO, 1987

	Number of industries	Percentage of total industry employment accounted for by establishments with UBO's in--: All countries	Canada	France	Federal Republic of Germany	Japan	Nether-lands	United Kingdom
All industries	54	8.3	1.3	0.6	1.0	0.6	0.6	2.0
R&D activity:								
R&D employment as a percentage of total industry employment:								
0-1.9	21	6.6	1.0	.5	.3	.4	.3	2.2
2.0-3.9	15	8.0	1.2	.9	.9	.5	.7	1.7
4.0-5.9	7	8.0	.9	.7	1.3	.7	.5	2.0
6.0-7.9	7	13.9	3.4	.7	2.6	1.3	1.1	2.2
8.0 or more	4	8.7	.3	.5	1.3	.8	.8	2.0
Addendum:								
Coefficient of correlation between R&D activity and foreign-owned establishments' share of employment/1/ . .	--	0.286*	0.094	0.057	0.351*	0.365*	0.233	-0.044

UBO = Ultimate beneficial owner

R&D = Research and development

1. See footnote 1 to Appendix C, Table 5-2.

* Statistically significant at the 5-percent level.

NOTE.--The percentage of total employment accounted for by R&D employees was computed for the 54 industries using U.S. parent company data from a BEA survey of U.S. direct investment abroad. Industries are grouped by the percentage of U.S. parent companies' employees engaged in R&D. The average employment shares shown are unweighted averages for all industries in a given size group.

Table 5-6
Employment in U.S. Affiliates: BEA Enterprise Data Compared With Census Bureau Establishment Data, 1987
(Thousands of employees)

Industries	BEA enterprise data: All affiliates	BEA enterprise data: Affiliates linked to Census establishments	Census data for Census establishments linked to BEA affiliates	BEA linked enterprises less Census linked establishments
All industries	3,333.9	3,229.2	3,228.9	0.3
Agriculture, forestry, & fishing/1/	14.3	12.4	2.1	10.3
Mining	35.5	31.4	97.6	-66.2
Construction/2/	52.4	49.2	51.4	-2.2
Manufacturing	1,633.2	1,579.0	1,311.4	267.6
Of which:				
Food & kindred products	142.6	138.9	110.2	28.7
Chemicals & allied products	395.8	392.7	171.8	220.9
Petroleum & coal products manufacturing	90.6	90.5	18.2	72.3
Primary metal industries	85.5	84.5	78.1	6.4
Fabricated metal products	73.8	73.1	61.4	11.6
Machinery, except electrical	109.3	104.8	116.0	-11.2
Electric & electronic equipment	216.8	213.4	170.3	43.1
Printing & publishing	77.2	74.2	51.8	22.5
Stone, clay, & glass products	103.2	93.6	64.5	29.1
Instruments & related products	64.6	49.0	72.8	-23.8
Transportation equipment	55.7	52.9	55.8	-2.9
Of which:				
Motor vehicles & equipment	33.2	31.0	40.5	-9.5
Transportation & public utilities/3/	98.0	95.5	94.3	1.2
Wholesale trade	334.9	325.7	343.3	-17.6
Of which:				
Motor vehicles & equipment	71.4	71.2	30.2	41.0
Retail trade	560.4	553.9	628.8	-74.9
Finance, insurance, & real estate/2/	314.8	307.6	310.9	-3.3
Services	290.3	274.5	390.7	-116.2
Private education & noncommercial establishments	n.a.	n.a.	.2	n.a.
Unclassified establishments	n.a.	n.a.	.6	n.a.

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n.a. Not applicable.

1. For the Census Bureau data, excludes agricultural production of crops and livestock (SIC 01 and 02).

2. For the Census Bureau data, includes "land subdividers and developers, except cemeteries" (SIC 6552).

3. For the Census Bureau data, excludes railroads.

NOTE.--In this table, unlike in most BEA tables published elsewhere on direct investment, petroleum is not shown as a separate major industry. Instead, in order to be consistent with Census Bureau practice, data for the various petroleum subindustries are distributed among the other major industries. Thus, manufacturing includes petroleum and coal products, wholesale trade includes petroleum wholesale trade, retail trade includes gasoline service stations, and so on.

Table 5-7

Employment of U.S. Affiliates, Industry of BEA Enterprise by Industry of Census Bureau Establishment, 1987

(Thousands of employees)

		BEA enterprise data for affiliates that linked to Census Bureau establishments	Census Bureau establishment data for linked affiliates								
			Total by industry of BEA enterprise	Industry of Census Bureau establishment							
				Agricultural services forestry, and fishing	Mining	Construction /1/	Manufacturing				
							Total	Of which:			
								Food and kindred products	Chemicals and allied products	Primary metal industries	Fabricated metal prod-
Line	Industry of BEA enterprise	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Total	3,229.2	3,228.9	2.1	97.6	51.4	1,311.4	110.2	171.8	78.1	61.4
2	Agriculture, forestry, & fishing	12.4	2.4	.3	A	0	F	F	0	0	B
3	Mining	24.6	25.4	0	19.9	B	3.3	0	B	.5	B
4	Construction	49.2	43.0	0	B	34.0	3.0	E	0	0	1.1
5	Petroleum	112.7	119.0	.2	28.1	0	37.7	H	5.7	E	1.0
6	Manufacturing	1,488.5	1,463.2	.5	45.4	6.3	1,119.1	86.7	161.7	70.7	55.5
	Of which:										
7	Food and kindred products . . .	138.9	143.2	E	A	C	85.9	74.9	.9	A	C
8	Chemicals and allied products .	392.7	403.4	C	J	.1	303.2	11.6	149.8	E	7.6
9	Primary metal industries	84.5	81.0	0	6.5	.1	68.2	0	2.6	49.0	4.1
10	Fabricated metal products . . .	73.1	70.0	0	E	H	60.6	B	H	7.7	27.7
11	Machinery, except electrical . .	104.8	110.6	0	1.5	E	82.8	0	E	1.5	2.1
12	Electric and electronic equipment	213.4	199.9	0	A	E	166.3	B	.6	1.8	3.0
13	Printing and publishing	74.2	54.7	0	0	A	41.7	0	E	0	.2
14	Stone, clay, and glass products	93.6	93.8	0	6.3	2.0	76.0	0	1.3	E	1.4
15	Instruments and related products	49.0	56.5	0	I	C	37.6	0	.7	E	E
16	Transportation equipment	52.9	52.6	0	0	C	46.3	0	0	I	4.9
	Of which:										
17	Motor vehicles and equipment .	31.0	31.1	0	0	0	26.8	0	0	F	H
18	Transportation and public utilities	93.8	76.2	B	G	.1	G	G	0	A	B
19	Wholesale trade	313.7	321.1	.5	1.3	1.3	123.2	14.9	3.9	6.1	3.0
	Of which:										
20	Motor vehicles and equipment .	71.2	73.2	0	0	F	35.2	0	0	C	E
21	Retail trade	552.3	536.3	A	0	E	6.7	2.7	0	0	0
22	Finance, insurance, and real estate	307.6	331.5	A	.4	5.8	3.5	F	C	E	E
23	Services	274.5	310.8	F	G	3.8	11.7	0	C	0	.2

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1. Includes "land subdividers and developers, except cemeteries" (SIC 6552).
2. Excludes railroads.
3. Consists of private education and noncommercial establishments and unclassified establishments.

NOTE.--Size ranges are given in employment cells that are suppressed. The size ranges are: A--0 to 19; B--20 to 99; C--100 to 249; E--250 to 499; F--500 to 999; G--1,000 to 2,499; H--2,500 to 4,999; I--5,000 to 9,999; J--10,000 to 24,999; K--25,000 to 49,999; L--50,000 to 99,999; M--100,000 or more.

Unsuppressed cells with between 0 and 150 employees are shown as 0.1.

The distribution of the BEA employment data among industries shown in column 1 differs from that in table H because, in the stub for this table, petroleum is shown as a separate major industry in order to be consistent with previously published BEA data. In this table, the major industry "petroleum" includes affiliate employment in the various petroleum subindustries. All of the other major industries exclude these petroleum subindustries. For example, mining excludes crude petroleum (no refining) and natural gas, manufacturing excludes petroleum and coal products, wholesale trade excludes petroleum wholesale trade, and so on.

Table 5-7 (continued)
Employment of U.S. Affiliates, Industry of BEA Enterprise by Industry of Census Bureau Establishment, 1987
(Thousands of employees)

Census Bureau establishment data for linked affiliates (continued)														Employment of BEA enterprises that linked, less employment of Census Bureau establishments that linked (Cols. 1-2)	Line
Industry of Census Bureau establishment (continued)															
M Manufacturing (continued)							Transtation and public utilities /2/	Wholesale trade		Retail trade	Finance, insurance, and real estate/1/	Services	Other/3/		
Of which:															
					Transportation equipment										
Machinery, except electrical	Electric and electronic equipment	Printing and publishing	Stone, clay and glass products	Instruments and related products	Total	Of which: Motor vehicles and equipment		Total	Of which: Motor vehicles and equipment						
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	
116.0	170.3	51.8	64.5	72.8	55.8	40.5	94.3	343.3	30.2	628.8	310.9	390.7	0.8	0.3	1
0	0	0	0	0	0	0	0	.9	0	0	C	B	0	10.0	2
B	0	0	1.3	A	0	0	F	.7	0	B	.3	F	A	- .8	3
E	C	0	E	B	0	0	E	.5	0	E	.5	4.2	A	6.2	4
.6	.8	0	E	B	A	0	9.4	12.0	A	28.9	1.0	1.6	.1	-6.3	5
99.2	141.8	45.5	61.2	66.8	33.7	20.8	7.9	145.8	I	74.1	3.8	59.9	.4	25.2	6
C	0	0	B	E	0	0	.4	21.8	0	20.7	.2	13.4	E	-4.4	7
8.0	12.4	2.2	1.6	12.6	H	F	3.6	35.9	.4	J	1.2	J	A	-10.7	8
2.3	1.3	G	2.0	.5	E	E	.1	3.1	B	G	.1	1.1	A	3.5	9
5.4	3.0	0	1.9	1.6	2.2	1.2	C	3.7	E	A	B	H	0	3.1	10
60.0	7.0	G	C	1.6	1.0	C	B	16.8	.4	E	.2	8.4	A	-5.9	11
10.3	113.3	0	1.3	15.8	1.7	E	.2	27.7	.3	F	.5	4.2	A	13.4	12
E	0	37.2	0	B	0	0	.8	I	0	G	E	2.9	A	19.5	13
2.0	.7	0	53.7	4.3	G	F	.6	7.0	F	.5	.4	1.1	.1	-.3	14
G	G	0	0	27.2	G	G	0	I	A	0	.1	2.8	0	-7.5	15
6.3	G	0	E	G	20.4	14.1	G	4.2	1.9	A	C	.4	A	.3	16
H	B	0	0	F	14.4	14.0	G	2.8	1.7	A	C	C	A	-.2	17
0	B	0	0	A	B	B	65.6	.9	0	F	.3	5.4	A	17.6	18
14.1	23.6	G	.8	5.3	21.0	19.6	3.4	169.6	24.6	10.7	3.3	7.7	.1	-7.4	19
2.8	.8	0	A	C	19.9	19.6	F	33.4	23.6	1.4	1.1	.7	A	-2.0	20
0	B	A	0	C	0	0	G	8.7	C	505.4	1.2	12.2	A	16.1	21
B	E	F	B	B	B	B	.5	1.0	B	3.0	295.7	23.6	C	-23.9	22
1.5	3.5	H	0	.5	B	B	4.5	3.1	0	5.6	H	275.5	.2	-36.3	23

Table 6-1
Foreign Direct Investment Position
(Billion dollars)

Industry	1980	1987	1990
Manufacturing:			
Industrial inorganic chemicals	6.2	14.6	25.1
Drugs	1.5	5.6	12.4
Computers & office equip.	0.4	1.4	2.7
Audio, video, & communications	1.1	5.2	5.4
Electronic components	1.5	1.3	3.9
Other transportation equip.	0.3	1.2	0.5
Instruments & related prods.	0.6	4.3	5.7
Services:			
Computer & data processing	0.1	0.7	2.3
Engineering & architectural	0.1	3.1	1.2
Total High Technology	11.5	37.5	59.2
All Affiliates	83.0	263.4	396.7
High Technology Share of Total (percent)	14.3%	14.9%	14.8%

Sources: Bureau of Economic Analysis, *Foreign Direct Investment in the United States, 1980; Foreign Direct Investment in the United States: 1987 Benchmark Survey, Final Results*; and *Foreign Direct Investment in the United States: Operations of U.S. Affiliates of Foreign Companies, Preliminary 1990 Estimates.*

Table 6-2
Total Assets of High Technology Affiliates
(Billion dollars)

Industry	1980	1987	1990
Manufacturing			
Industrial chemicals & synthetics	14.6	53.4	90.5
Drugs	2.5	10.7	25.6
Computers & office equip.	*	4.2	11.0
Audio, video, & communications	9.8	8.2	12.2
Electronic components	*	4.4	9.4
Other transportation equip.	n/a	2.5	4.4
Instruments & related prodts.	1.4	6.8	10.6
Services:			
Computer & data processing	n/a	2.0	6.3
Engineering & architectural	n/a	5.1	3.6
Total High Technology	28.3	97.3	173.6
All Affiliates	291.3	943.7	1529.8
High Technology Share of Total (percent)	9.7%	10.3%	11.3%

*Included in audio, video, communications.

Sources: Bureau of Economic Analysis, *Foreign Direct Investment in the United States, 1980; Foreign Direct Investment in the United States: 1987 Benchmark Survey, Final Results*; and *Foreign Direct Investment in the United States: Operations of U.S. Affiliates of Foreign Companies, Preliminary 1990 Estimates.*

Table 6-3
Property, Plant, and Equipment Expenditures
(Billion dollars)

Industry	1980	1987	1990
Manufacturing:			
Industrial chemicals & synthetics	11.3	44.0	66.7
Drugs	1.6	5.8	11.2
Computers & office equip.	*	2.9	3.8
Video, audio, & communications	3.8	3.8	5.4
Electronic components	*	2.8	5.1
Other transportation equip.	n/a	0.7	1.3
Instruments & related prodts.	0.4	3.0	3.1
Services:			
Computer & data processing	n/a	0.8	2.5
Engineering & architectural	n/a	2.5	0.9
Total High technology	17.1	65.4	100.0
All Affiliates	127.8	353.3	572.3
High Technology Share of Total (percent)	13.3%	18.5%	17.5%

*Included in video, audio, communications.

Sources: Bureau of Economic Analysis, *Foreign Direct Investment in the United States, 1980; Foreign Direct Investment in the United States: 1987 Benchmark Survey, Final Results*; and *Foreign Direct Investment in the United States: Operations of U.S. Affiliates of Foreign Companies, Preliminary 1990 Estimates.*

Table 6-4
Employment in High-Tech Affiliates, 1980-1990
(By industry of sales; in thousands)

Industry	1980	1987	1990
Manufacturing:			
Industrial chemicals & synthetics	71.5	132.4	146.0
Drugs	43.0	58.3	86.1
Computers & office equip.	17.9	29.7	45.4
Video, audio, & communications	36.8	75.5	79.5
Electronic components	71.8	52.5	86.2
Engines & turbines	n/a	3.2	15.6
Other transportation equip..	21.8	12.1	41.5
Instruments & related prodts.	51.2	76.0	109.2
Services:			
Computer & data proc.	n/a	21.9	50.2
Engineering & architectural.	15.3	21.0	42.5
Research & testing	n/a	16.4	33.3
Total High Technology	329.3	499.0	702.2
All Affiliates	2033.9	3224.3	4705.3
High Technology Share of Total (percent)	16.2%	15.5%	15.6%

Sources: Bureau of Economic Analysis, *Foreign Direct Investment in the United States, 1980; Foreign Direct Investment in the United States: 1987 Benchmark Survey, Final Results*; and *Foreign Direct Investment in the United States: Operations of U.S. Affiliates of Foreign Companies, Preliminary 1990 Estimates.*

Table 6-5
Sales of High-Tech Industries, 1980-1990
(By industry of sales; in billion dollars)

Industry	1980	1987	1990
Manufacturing:			
Industrial chemicals & synthetics . .	13.1	31.1	40.0
Drugs	3.4	10.1	18.8
Computers & office equip.	1.3	4.0	8.7
Video, audio, & communications . .	2.8	11.0	15.4
Electronic components	3.6	5.3	10.6
Engines & turbines	0.6	0.5	3.0
Other transportation eqpt.	1.7	2.2	4.8
Instruments & related prodts.	3.5	7.5	13.7
Services:			
Computer & data processing	n/a	2.5	6.2
Engineering & architectural	1.4	2.5	5.0
Research & testing	n/a	1.0	2.7
Total High Technology	31.4	77.7	128.8
All Affiliates	412.4	744.6	1168.5
High Technology Share of Total (percent)	7.6%	10.4%	10.6%

Sources: Bureau of Economic Analysis, *Foreign Direct Investment in the United States, 1980; Foreign Direct Investment in the United States: 1987 Benchmark Survey, Final Results*; and *Foreign Direct Investment in the United States: Operations of U.S. Affiliates of Foreign Companies, Preliminary 1990 Estimates.*

Table 6-6
Royalties and License Fees Payments and Receipts, Selected Industry of Affiliate by Selected Country of Foreign Parent, 1983

(Millions of dollars)

	All countries		Japan		Germany		United Kingdom	
	Payments	Receipts	Payments	Receipts	Payments	Receipts	Payments	Receipts
Manufacturing	234	33	18	4	45	1	50	(D)
Of which:								
Industrial chemicals & synthetics	53	2	3	1	20	0	(D)	0
Drugs	21	1	0	0	3	0	0	0
Engines & turbines	0	0	0	0	0	0	0	0
Computer & office equip.	5	(*)	5	0	0	0	(*)	(*)
Household audio, video, & comm. equip.	7	(D)	2	0	3	0	3	(D)
Electronic components & access.	6	1	(*)	0	(*)	0	3	0
Other transportation equip., nec	(*)	(*)	0	0	0	0	0	(*)
Instruments & related products	6	0	2	0	3	0	0	0
Services	14	2	(*)	0	0	0	2	1
Of which:								
Computer & data processing services .	0	0	0	0	0	0	0	0
Engineering, architectural, & surveying services.	(*)	(*)	0	0	0	0	(*)	0
Research, development, & testing services	(*)	0	0	0	0	0	(*)	0

Source: Bureau of Economic Analysis.

Table 6-7
Royalties and License Fees Payments and Receipts, Selected Industry of Affiliate by Selected Country of Foreign Parent, 1987
(Millions of dollars)

	All countries		Japan		Germany		United Kingdom	
	Payments	Receipts	Payments	Receipts	Payments	Receipts	Payments	Receipts
Manufacturing	755	94	45	9	152	7	243	7
Of which:								
Industrial chemicals & synthetics	119	6	3	(*)	57	1	(D)	(*)
Drugs	205	3	1	(*)	46	(*)	(D)	0
Engines & turbines	0	0	0	0	0	0	0	0
Computer & office equip.	4	(D)	2	0	0	0	(*)	(*)
Household audio, video, & comm. equip.	14	1	4	0	0	0	(D)	1
Electronic components and accessories	9	1	5	1	4	0	0	0
Other transportation equipment, nec	3	(*)	0	0	(*)	0	2	0
Instruments & related products	17	(*)	2	(*)	(D)	(*)	1	0
Services	41	31	1	(*)	(D)	3	(D)	(D)
Of which:								
Computer & data processing services	(D)	6	0	0	(D)	3	(*)	3
Engineering, architectural, & surveying services	3	2	0	(*)	(*)	0	0	0
Research, development, & testing services	0	(D)	0	0	0	0	0	0

Source: Bureau of Economic Analysis.

Table 6-8
Royalties and License Fees Payments and Receipts, Selected Industry of Affiliate by Selected Country of Foreign Parent, 1988
(Millions of dollars)

	All countries		Japan		Germany		United Kingdom	
	Payments	Receipts	Payments	Receipts	Payments	Receipts	Payments	Receipts
Manufacturing	812	109	57	(D)	188	6	229	15
Of which:								
Industrial chemicals & synthetics	167	5	4	(*)	77	(*)	(D)	(*)
Drugs	225	11	1	2	52	1	(D)	0
Engines & turbines	0	0	0	0	0	0	0	0
Computer & office equipment	14	(D)	1	0	(*)	0	1	(*)
Household audio, video, & comm. equip.	11	1	7	0	0	0	0	0
Electronic components & accessories	7	0	4	0	2	0	(*)	0
Other transportation equipment, nec	1	(*)	0	0	(*)	0	(*)	0
Instruments & related products	18	1	1	0	(D)	(*)	(*)	1
Services	35	41	1	4	(D)	3	1	6
Of which:								
Computer & data processing services	25	4	0	0	(D)	3	(*)	1
Engineering, architectural, & surveying services	4	2	0	0	(*)	0	0	0
Research, development, & testing services	0	(D)	0	0	0	0	0	0

Source: Bureau of Economic Analysis.

Table 6-9
Royalties and License Fees Payments and Receipts, Selected Industry of Affiliate by Selected Country of Foreign Parent, 1989
(Millions of dollars)

	All countries		Japan		Germany		United Kingdom	
	Payments	Receipts	Payments	Receipts	Payments	Receipts	Payments	Receipts
Manufacturing	1098	155	93	19	210	13	322	31
Of which:								
Industrial chemicals & synthetics	201	7	3	(*)	87	(*)	(D)	0
Drugs	327	12	(*)	4	(D)	1	(D)	0
Engines & turbines	0	0	0	0	0	0	0	0
Computer & office equipment	21	(D)	2	0	0	0	(*)	(*)
Household audio, video, & comm. equip.	4	5	3	(*)	0	0	0	0
Electronic components & accessories	16	4	8	4	3	0	0	0
Other transportation equipment, nec	2	(*)	0	0	(*)	0	2	(*)
Instruments & related products	22	1	(*)	0	(D)	(*)	0	(*)
Services	56	78	(D)	1	8	0	(D)	(D)
Of which:								
Computer & data processing services	14	1	0	0	(D)	0	(*)	1
Engineering, architectural, & surveying services	8	1	0	0	(*)	0	1	0
Research, development, & testing services	0	(D)	0	0	0	0	0	0

Source: Bureau of Economic Analysis.

Table 6-10
Royalties and License Fees Payments and Receipts, Selected Industry of Affiliate by Selected Country of Foreign Parent, 1990
(Millions of dollars)

	All countries		Japan		Germany		United Kingdom	
	Payments	Receipts	Payments	Receipts	Payments	Receipts	Payments	Receipts
Manufacturing‘	1298	160	130	25	204	23	368	(D)
Of which:								
Industrial chemicals & synthetics	188	18	3	2	66	(D)	(D)	0
Drugs	386	46	1	(D)	(D)	3	(D)	2
Engines & turbines	0	0	0	0	0	0	0	0
Computer & office equipment	57	(D)	13	1	0	0	(*)	(*)
Household audio, video, & comm. equip.	4	(*)	3	(*)	0	0	(*)	(*)
Electronic components & accessories	79	1	7	(*)	4	1	3	(*)
Other transportation equipment, nec	1	(*)	0	0	(*)	0	(*)	(*)
Instruments & related products	25	9	2	(*)	(D)	(*)	0	0
Services	113	73	5	1	(D)	1	55	(D)
Of which:								
Computer & data processing services	51	1	0	0	(D)	1	(D)	(*)
Engineering, architectural, & surveying services	9	1	(*)	(*)	(*)	0	1	0
Research, development, & testing services	0	(D)	0	0	0	0	0	0

Source: Bureau of Economic Analysis.

Table 6-11
Royalties and License Fees Payments and Receipts, Selected Industry of Affiliate by Selected Country of Foreign Parent, 1991
(Millions of dollars)

	All countries		Japan		Germany		United Kingdom	
	Payments	Receipts	Payments	Receipts	Payments	Receipts	Payments	Receipts
Manufacturing	1784	160	175	12	189	30	739	43
Of which:								
Industrial chemicals & synthetics	195	34	3	2	77	(D)	(D)	(*)
Drugs	640	22	2	2	(D)	0	(D)	0
Engines & turbines	1	0	0	0	0	0	0	0
Computer & office equipment	97	22	32	1	0	0	(*)	(D)
Household audio, video, & comm. equip.	4	(*)	3	(*)	0	0	0	0
Electronic components & accessories	29	1	7	0	4	(*)	0	0
Other transportation equipment, nec	(D)	1	0	0	1	(*)	(D)	(*)
Instruments and related products	39	1	2	0	(D)	(*)	(D)	1
Services	136	107	3	8	(D)	(D)	44	17
Of which:								
Computer & data processing services	66	4	0	0	(D)	1	(D)	(*)
Engineering, architectural, & surveying services	11	2	(*)	(*)	(*)	0	(*)	0
Research, development, & testing services	0	(D)	0	0	0	0	0	0

Source: Bureau of Economic Analysis.

Table 7-1
U.S. Merchandise Trade, Total & by U.S. Affiliate and All Other Firms, 1980-90
(Million dollars)

	Total U.S. Firms			U.S. Affiliate Firms		
	Exports	Imports	Balance	Exports	Imports	Balance
1980	225.7	245.3	-19.5	52.2	75.8	-23.6
1981	238.7	261.0	-22.3	64.1	82.3	-18.2
1982	216.4	244.0	-27.5	60.2	84.3	-24.1
1983	205.6	258.0	-52.4	53.9	81.5	-27.6
1984	224.0	330.7	-106.7	58.2	100.5	-42.3
1985	218.8	336.5	-117.7	56.4	113.3	-56.9
1986	227.2	365.4	-138.3	49.6	125.7	-76.2
1987	254.1	406.2	-152.1	48.1	143.5	-95.4
1988	322.4	441.0	-118.5	69.5	155.5	-86.0
1989	363.8	473.2	-109.4	86.3	171.8	-85.5
1990	393.6	495.3	-101.7	91.1	180.7	-89.5

	U.S.-Owned Firms			U.S. Affiliate Share		
	Exports	Imports	Balance	Exports	Imports	Balance
1980	173.5	169.5	4.1	23.1%	30.9%	120.8%
1981	174.6	178.7	-4.1	26.8%	31.5%	81.6%
1982	156.2	159.7	-3.5	27.8%	34.6%	87.4%
1983	151.8	176.6	-24.8	26.2%	31.6%	52.7%
1984	165.8	230.2	-64.4	26.0%	30.4%	39.7%
1985	162.4	223.2	-60.8	25.8%	33.7%	48.4%
1986	177.6	239.7	-62.1	21.8%	34.4%	55.1%
1987	206.0	262.7	-56.7	18.9%	35.3%	62.7%
1988	252.9	285.4	-32.5	21.6%	35.3%	72.6%
1989	277.5	301.4	-23.9	23.7%	36.3%	78.2%
1990	302.5	314.6	-12.2	23.2%	36.5%	88.0%

Note: May not add due to rounding.
Source: Bureau of Economic Analysis.

Table 7-2
U.S. Affiliate Merchandise Trade, by Country of UBO Ownership, (Million dollars)

	Imports				
	Total	Japan	Europe	Canada	All Other
1980	75.8	27.7	33.3	5.6	9.3
1981	82.3	33.3	34.3	8.2	6.5
1982	84.3	35.9	32.1	6.1	10.2
1983	81.5	36.6	31.9	6.0	7.0
1984	100.5	47.8	37.8	7.2	7.7
1985	113.3	58.1	40.7	6.9	7.6
1986	125.7	63.8	44.4	7.1	10.4
1987	143.5	72.6	51.1	8.0	11.9
1988	155.5	77.7	55.8	9.3	12.7
1989	171.8	84.5	59.4	10.6	17.3
1990	180.7	87.7	61.4	10.5	21.0

	Exports				
	Total	Japan	Europe	Canada	All Other
1980	52.2	19.1	23.3	1.8	7.9
1981	64.1	22.7	29.5	4.5	7.4
1982	60.2	21.5	28.7	4.2	5.8
1983	53.9	22.8	21.8	4.3	5.0
1984	58.2	23.8	24.8	4.5	5.1
1985	56.4	22.7	23.8	4.2	5.8
1986	49.6	21.3	20.6	4.4	3.4
1987	48.1	20.4	18.4	5.0	4.4
1988	69.5	26.4	30.8	5.9	6.5
1989	86.3	34.1	38.0	6.0	8.2
1990	91.1	39.2	37.8	6.2	8.0

	Balance				
	Total	Japan	Europe	Canada	All Other
1980	-23.6	-8.5	-9.9	-3.8	-1.4
1981	-18.2	-10.6	-4.8	-3.7	0.9
1982	-24.1	-14.4	-3.4	-1.9	-4.4
1983	-27.6	-13.8	-10.2	-1.7	-2.0
1984	-42.3	-24.1	-13.0	-2.7	-2.5
1985	-56.9	-35.4	-16.9	-2.8	-1.9
1986	-76.2	-42.5	-23.8	-2.8	-7.1
1987	-95.4	-52.2	-32.7	-3.1	-7.5
1988	-86.0	-51.3	-25.0	-3.4	-6.3
1989	-85.5	-50.4	-21.5	-4.6	-9.0
1990	-89.5	-48.6	-23.6	-4.3	-13.0

Source: Bureau of Economic Analysis

Table 7-3
Shares of Total U.S. Affiliate Merchandise Trade, by Country of UBO Ownership, 1980-90
(In percent)

	Japan		Europe		Canada		All Other Owners	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
1980	36.5	36.7	43.9	44.7	7.3	3.4	12.3	15.2
1981	40.5	35.4	41.7	46.1	10.0	7.1	7.9	11.5
1982	42.6	35.7	38.1	47.7	7.2	6.9	12.1	9.7
1983	44.9	42.4	39.2	40.4	7.4	8.0	8.5	9.2
1984	47.6	40.8	37.6	42.6	7.2	7.7	7.6	8.8
1985	51.3	40.3	35.9	42.1	6.1	7.4	6.7	10.2
1986	50.7	42.9	35.3	41.5	5.7	8.8	8.3	6.8
1987	50.6	42.4	35.6	38.2	5.6	10.3	8.3	9.1
1988	49.9	38.0	35.9	44.3	6.0	8.4	8.2	9.3
1989	49.2	39.5	34.6	44.0	6.2	7.0	10.1	9.6
1990	48.5	43.0	34.0	41.5	5.8	6.8	11.6	8.7

Source: Bureau of Economic Analysis.

Table 7-4
U.S. Affiliate Merchandise Trade, by Industry of Affiliate, 1980-90
(Million dollars)

	Exports				
	Total	Petroleum	Manufactures	Wholesalers	All other
1980	52.2	1.0	9.0	40.7	1.4
1981	64.1	1.9	13.6	46.5	2.1
1982	60.2	1.5	12.9	43.3	2.5
1983	53.9	1.4	12.0	38.5	1.9
1984	58.2	1.3	13.1	40.5	3.3
1985	56.4	1.6	12.8	38.3	3.7
1986	49.6	1.2	12.8	33.7	1.9
1987	48.1	1.2	15.5	29.2	2.3
1988	69.5	1.7	25.2	40.0	2.6
1989	86.3	2.0	31.9	49.1	3.3
1990	91.1	2.9	32.7	52.1	3.4

	Imports				
	Total	Petroleum	Manufactures	Wholesalers	All other
1980	75.8	10.6	10.4	54.0	0.8
1981	82.3	10.0	13.2	57.9	1.1
1982	84.3	8.5	12.4	61.7	1.7
1983	81.5	7.0	14.0	59.0	1.4
1984	100.5	6.3	18.2	72.5	3.6
1985	113.3	6.4	18.6	84.6	3.7
1986	125.7	6.6	20.6	94.5	4.0
1987	143.5	9.0	24.5	107.3	2.7
1988	155.5	7.9	32.8	111.5	3.4
1989	171.8	14.1	40.9	114.0	2.8
1990	180.7	18.8	45.1	113.4	3.3

	Balance				
	Total	Petroleum	Manufactures	Wholesalers	All other
1980	-23.6	-9.6	-1.4	-13.3	0.7
1981	-18.2	-8.1	0.4	-11.4	1.0
1982	-24.1	-7.0	0.5	-18.3	0.7
1983	-27.6	-5.5	-2.0	-20.6	0.5
1984	-42.3	-5.0	-5.1	-31.9	-0.3
1985	-56.9	-4.8	-5.8	-46.3	0.0
1986	-76.2	-5.5	-7.8	-60.8	-2.1
1987	-95.4	-7.8	-9.1	-78.1	-0.5
1988	-86.0	-6.3	-7.6	-71.4	-0.7
1989	-85.5	-12.1	-9.0	-65.0	0.6
1990	-89.5	-15.9	-12.4	-61.4	0.1

Source: Bureau of Economic Analysis.

Table 7-5
U.S. Affiliate Trade with Foreign Parent Groups and Other Firms (Including Foreign Affiliates), 1980-90
(Million dollars)

	Exports			Imports			Balance		
	Total	Parent Groups	Other Firms	Total	Parent Groups	Other Firms	Total	Parent Groups	Other Firms
1980	52.2	21.0	31.2	75.8	47.0	28.8	-23.6	-26.0	2.4
1981	64.1	26.9	37.2	82.3	52.2	30.1	-18.2	-25.3	7.1
1982	60.2	25.0	35.2	84.3	51.9	32.4	-24.1	-26.9	2.8
1983	53.9	22.6	31.3	81.5	54.8	26.7	-27.6	-32.2	4.6
1984	58.2	27.1	31.1	100.5	70.5	30.0	-42.3	-43.4	1.1
1985	56.4	25.9	30.5	113.3	81.7	31.6	-56.9	-55.8	-1.1
1986	49.6	21.9	27.7	125.7	93.4	32.3	-76.2	-71.5	-4.6
1987	48.1	19.1	29.0	143.5	108.2	35.3	-95.4	-89.1	-6.4
1988	69.5	26.4	43.1	155.5	118.4	37.2	-86.0	-91.9	5.9
1989	86.3	34.3	52.0	171.8	129.9	41.9	-85.5	-95.7	10.1
1990	91.1	37.8	53.3	180.7	136.7	44.0	-89.5	-98.9	9.3

Source: Bureau of Economic Analysis.

APPENDIX D

Selected Tables Specially Prepared by the Bureau of Economic Analysis

I. Groups of Tables

Table group	Table numbers
International investment flows and position	1
FDI capital inflows	2 - 6
FDIUS position	7 - 15
Acquisitions and establishments	16 - 35
Gross plant and equipment	36 - 38
Sales	39 - 46
Employment	47 - 51
Wages and salaries	52 - 53
Total compensation	54 - 55
Research and development expenditures	56 - 57
Net income	58 - 59
Income taxation	60 - 61
Merchandise exports	62 - 64
Merchandise imports	65 - 67
Sales of services to foreigners	68

II. General Notes to Tables

Tables 1-15 consist of direct investment data that enter the U.S. balance of payments accounts. Table 1 includes direct investment data that, with the exception of the 1980 and 1981 capital flow data, reflect recent changes in the methodology for measuring direct investment capital flows and positions. These changes are not reflected in tables 2-15 because detail by country and industry is not available. For explanation of changes involving capital flows, see the June 1992 *Survey of Current Business* article entitled "U.S. International Transactions;" for explanation of changes involving the position, see the May 1991 *Survey of Current Business* article entitled "Valuation of the U.S. Net International Investment Position."

In tables 16-35, for acquired U.S. business enterprises, data on total assets, sales, net income, employment, and land owned are for, or as of the end of, the fiscal year preceding the year of acquisition; for newly established U.S. business enterprises, the data are projections for, or as of the end of, the first full year of operations.

The estimates in tables 36-68 are on a fiscal year basis; an affiliate's fiscal year is defined as the financial reporting year that ended in that calendar year.

Detail may not add to totals because of rounding.

An asterisk "(*)" indicates a value between -$500,000 and $500,000, less than 500 acres, or fewer than 50 employees, as appropriate.

A "(D)" indicates that data have been supressed to avoid disclosure of data of individual companies.

An "n.a." indicates that data are not available at the given level of detail.

Tables 36-68 cover only nonbank U.S. affiliates.

A "foreign parent" is the first person outside the United States in the U.S. affiliate's ownership chain that has a direct interest in the affiliate.

An "ultimate beneficial owner" (UBO) is that person, proceeding up a U.S. affiliate's ownership chain, beginning with and including the foreign parent, that is not owned more than 50 percent by another person.

A "foreign parent group" (FPG) consists of (1) the foreign parent, (2) any foreign person, proceeding up the foreign parent's ownership chain, that owns more than 50 percent of the person below it, up to and including the UBO, and (3) any foreign person, proceeding down the ownership chain(s) of each of these members, that is owned more than 50 percent by the person above it.

Unless otherwise indicated, the major industry classification "petroleum" includes all of the various three-digit BEA petroleum subindustries. All other major industries exclude these petroleum subindustries. For example, mining excludes crude petroleum (no refining) and gas; manufacturing excludes petroleum refining and coal products; retail trade excludes gasoline service stations; and wholesale trade excludes petroleum wholesale trade.

In these tables, "finance, except banking" includes holding companies.

All data for the European Community (EC) prior to 1986 are for the EC(10), which comprises Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, and the United Kingdom; all data for the EC for 1986 forward are for the EC(12), which comprises the EC(10), Spain, and Portugal.

All data for Germany prior to 1990 are only for the Federal Republic of Germany. The data for 1990 forward include data for the former German Democratic Republic (GDR). This change has no effect on the data because there were no U.S. affiliates of the former GDR prior to 1990.

OPEC is the Organization of Petroleum Exporting Countries. Its members are Algeria, Ecuador, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

Table 1 -- U.S. International Investment Flows & Positions, 1980-91
(Millions of dollars)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Flows:												
Net flow (outflow (-), inflow (+)) ..	-28855	-31115	-29917	24524	72786	96897	132122	167570	126781	98749	43058	4760
Direct investment	-2304	15571	13455	5568	13800	6609	18533	31038	41830	38877	12443	-15638
Portfolio	-33893	-46471	-42000	14307	58977	95265	77629	81996	49105	76676	-1135	-3772
Official	7342	-215	-1372	4649	9	-4977	35960	54536	35846	-16804	31750	24170
Outflow, total (-)	-86967	-114147	-122335	-58856	-29224	-34069	-91069	-62402	-92708	-114944	-56321	-62220
Direct investment	-19222	-9624	991	-4889	-10948	-13401	-17090	-27181	-15448	-28995	-32694	-27135
Portfolio	-59590	-99348	-118361	-52771	-15145	-16810	-74291	-44370	-73348	-60656	-21469	-40848
Official	-8155	-5175	-4965	-1196	-3131	-3858	312	9149	-3912	-25293	-2158	5763
Inflow, total (+)	58112	83032	92418	83380	102010	130966	223191	229972	219489	213693	99379	66980
Direct investment	16918	25195	12464	10457	24748	20010	35623	58219	57278	67872	45137	11497
Portfolio	25697	52877	76361	67078	74122	112075	151920	126366	122453	137332	20334	37076
Official	15497	4960	3593	5845	3140	-1119	35648	45387	39758	8489	33908	18407
Positions:												
International investment, total:												
Net outward (+) or inward (-) position:												
Current Cost	392547	374254	378933	337376	232852	138950	18735	-26630	-183715	-312286	-294836	-361503
Market Value	.....	.....	264774	267553	175910	142205	109146	54240	-37988	-158782	-272027	-381835
Net outward (+) position:												
Current Cost	936275	1004162	1119178	1169162	1177532	1252535	1410190	1564748	1654582	1794727	1884199	1960301
Market Value	.....	.....	958577	1068263	1081766	1244460	1507734	1648367	1817494	2049801	1977053	2107041
Net inward (-) position:												
Current Cost	543728	629908	740245	831786	944680	1113585	1391455	1591378	1838297	2107013	2179035	2321804
Market Value	.....	.....	693803	800710	905856	1102255	1398588	1594127	1855482	2208583	2249080	2488876
Direct Investment:												
Net outward (+) or inward (-) position:												
Current Cost	270305	252492	210369	187273	150387	155857	155334	179890	141357	119658	157072	168238
Market Value	.....	.....	96210	117450	93445	159112	245745	260760	287084	273162	179881	147906
Historical Value			83075	70142	46897	45635	39386	50913	21139	3495	27384	42619
Net outward (+) position:												
Current Cost	396249	412418	387239	371667	361588	387183	421167	493341	515702	552822	623587	655260
Market Value	.....	.....	226638	270768	265822	379108	518711	576960	678614	807896	716441	802000
Historical Value			207752	207203	211480	230250	259800	314307	335893	372419	424086	450196
Net inward (-) position:												
Current Cost	125944	159926	176870	184394	211201	231326	265833	313451	374345	433164	466515	487022
Market Value	.....	.....	130428	153318	172377	219996	272966	316200	391530	534734	536560	654094
Historical Value	83046	108714	124677	137061	164583	184615	220414	263394	314754	368924	396702	407577

Table 2 — Foreign Direct Investment: Capital Inflows by Country of FPG, 1982-91

[Millions of dollars; outflows (-)]

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
All countries	13810	11518	25567	20490	36145	59581	58571	69010	46108	12619
Canada	-1516	170	3435	774	2526	4336	1852	1793	1414	-1324
Europe	10448	8919	14890	13521	22527	46303	31852	43046	21439	8212
Austria	(*)	71	29	76	189	66	30	290	226	-157
Belgium	35	317	302	-28	680	351	460	467	81	-184
Denmark	42	31	93	226	150	19	84	47	165	396
Finland	15	14	96	110	-28	70	123	998	401	46
France	-220	-133	776	35	980	3155	3122	2744	5726	3704
Germany	473	1011	1219	2056	2186	4591	2245	3738	726	1258
Ireland	2	79	61	(D)	(D)	100	295	1008	-210	96
Italy	314	21	321	68	74	-21	-683	850	424	-443
Liechtenstein	-38	-82	-4	-1	7	17	-4	-13	6	-83
Luxembourg	46	-12	113	-175	-42	-11	-318	509	1792	-986
Netherlands	3686	2662	3381	2877	4375	8413	6137	7323	6397	29
Norway	-29	56	1	118	-178	-35	-126	364	288	-220
Spain	93	-30	39	64	76	76	63	90	187	385
Sweden	38	339	159	249	1373	746	-95	587	588	145
Switzerland	898	833	1107	2448	1295	3083	831	5184	-560	24
United Kingdom	5103	3730	7184	5198	11319	25627	19617	18939	5226	4210
Other	-10	12	13	(D)	(D)	56	71	-78	-22	-9
Latin America and Other Western Hemisphere	1895	348	520	1243	965	-2374	2944	4069	4940	-480
South and Central America	646	-18	100	507	832	531	368	1095	915	238
Brazil	110	(*)	76	40	-19	70	-8	145	-45	106
Mexico	95	-39	61	222	322	22	38	107	199	59
Panama	335	-82	-158	159	60	400	220	148	817	88
Venezuela	37	-5	24	55	444	-1	124	616	-70	31
Other	69	108	97	31	25	41	-7	79	16	-45
Other Western Hemisphere	1249	365	420	735	133	-2905	2576	2974	4025	-718
Bahamas	-76	-41	6	31	127	-14	(D)	(D)	1563	-325
Bermuda	304	-212	-64	436	13	15	22	-110	722	20
Netherlands Antilles	959	489	794	198	555	691	1967	-126	4073	-3073
U. K. Islands, Caribbean	60	131	-318	66	-559	-3763	144	3201	-2315	2342
Other	2	-2	2	4	-3	166	(D)	(D)	-18	319
Africa	-94	53	90	246	-210	49	-41	55	-1	-259
South Africa	-5	6	7	6	84	(D)	(D)	-11	-15	-81
Other	-89	47	83	240	-294	(D)	(D)	66	14	-178
Middle East	792	(*)	784	81	149	302	1378	900	-615	484
Israel	91	17	76	-29	51	-14	-56	15	-9	451
Kuwait	556	-2	639	100	65	347	-99	257	74	287
Lebanon	1	1	26	9	7	-1	-2	-2	-9	-9
Saudi Arabia	136	-17	56	-10	13	-25	1508	611	-621	-215
United Arab Emirates	8	3	10	-1	-15	-11	67	2	-15	(*)
Other	0	-2	-23	12	28	6	-41	19	-34	-30
Asia and Pacific	2284	2027	5799	4626	10188	10965	20587	19147	18930	5987
Australia	128	198	1180	1155	2606	1457	2741	-81	1366	186
Hong Kong	50	78	296	2	41	456	88	388	188	199
Japan	1952	1644	4358	3368	7031	8806	17205	18653	17355	5183
Korea, Republic of	54	-1	-24	-3	475	-136	353	-821	-688	389
Malaysia	-6	8	(*)	-7	23	-27	52	(*)	19	31
New Zealand	-3	1	-45	14	28	102	-70	-47	45	-5
Philippines	24	14	5	-5	-7	-1	5	6	-5	-28
Singapore	71	89	23	34	-74	139	119	471	228	-233
Taiwan	5	-11	1	35	74	71	131	421	346	292
Other	9	7	5	33	-9	99	-38	158	77	-27
Addenda:										
European Communities	9485	7712	13483	10445	19856	42313	31032	35699	20484	8418
OPEC	712	-10	747	176	510	296	1629	1503	-662	123

Table 3.--Foreign Direct Investment in the United States: Capital Inflows, by Country of FFG, by Industry of Affiliate, 1988

[Millions of dollars; outflows (-)]

	All industries	Petroleum	Manufacturing						Wholesale trade	Retail trade	Banking	Finance, except banking	Insurance	Real estate	Services	Other industries
			Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery	Other manufacturing								
All countries	58571	-2049	31924	418	5749	2312	6094	17351	5998	1336	2737	615	2467	3164	8825	3554
Canada	1852	181	1094	577	57	492	378	-410	-174	-322	106	250	261	-642	-18	1117
Europe	31852	-2461	22816	-394	3797	1210	4584	13619	3010	951	1643	-2275	1746	622	5221	578
Austria	30	0	19	0	(D)	(D)	8	(D)	-3	(*)	(D)	(*)	(*)	(D)	(D)	(*)
Belgium	460	(D)	252	(D)	(D)	8	-61	118	239	24	-25	(D)	(*)	(*)	1	-3
Denmark	84	(D)	-4	(D)	(D)	(D)	3	10	15	(D)	-11	0	0	0	63	18
Finland	123	(D)	123	(D)	(D)	(D)	6	5	(D)	(*)	(D)	(D)	-8	-2	-3	1
France	3122	(D)	2322	300	276	82	-28	1692	255	-642	-1	729	-8	26	5	(D)
Germany, Federal Republic of	2245	-164	2857	(D)	1619	(D)	568	460	63	193	-25	-837	135	18	28	-24
Ireland	295	-1	260	(D)	(*)	0	40	(D)	(D)	0	(D)	0	0	(*)	(D)	(D)
Italy	-683	(D)	173	-18	140	1	32	19	-21	-2	37	(D)	(D)	(*)	-4	(D)
Liechtenstein	-4	(*)	8	(*)	0	(D)	-1	(D)	-6	0	0	-4	0	6	-7	-1
Luxembourg	-318	(D)	206	(*)	-3	(D)	(*)	(D)	67	1	6	-565	0	12	(D)	-11
Netherlands	6137	(D)	3292	501	179	-39	1883	768	-175	437	84	734	957	200	244	(D)
Norway	-126	(D)	13	-15	(D)	(D)	(*)	4	7	(D)	(D)	(D)	(D)	3	-67	-8
Spain	63	0	1	-1	1	1	2	-2	10	(D)	47	0	(D)	(D)	(*)	(*)
Sweden	-95	(D)	609	1	41	65	398	106	227	(D)	(D)	(D)	48	(D)	6	-7
Switzerland	831	-141	64	(D)	4	(D)	206	193	688	-129	-24	64	233	-17	74	18
United Kingdom	19617	-3218	12622	-788	1368	584	1529	9929	1634	1063	1504	-354	387	374	4913	694
Other	71	(D)	-3	(D)	(D)	(*)	(*)	-1	-8	0	11	(D)	0	(*)	(*)	(*)
Latin America and Other Western Hemisphere	2944	76	1700	37	1406	-163	-58	478	94	496	140	(D)	(D)	-41	(D)	38
South and Central America	368	(D)	-82	-2	(D)	(D)	-52	-3	-21	8	130	(D)	(D)	(*)	(D)	-9
Brazil	-8	(D)	-41	-1	-9	-1	-30	(*)	-16	(*)	43	0	(D)	(*)	0	-3
Mexico	38	0	-6	0	(D)	(D)	(D)	-4	19	(*)	(D)	2	0	-1	(D)	-1
Panama	220	43	-6	-1	(D)	(D)	-12	4	-32	8	(D)	(D)	(D)	2	(D)	-4
Venezuela	124	(D)	-5	0	(D)	(*)	(D)	-1	(D)	(*)	9	(*)	0	(*)	0	(*)
Other	-7	(D)	-24	(*)	-19	(*)	-4	-2	(D)	(*)	43	-8	-1	-1	0	-1
Other Western Hemisphere	2576	(D)	1782	39	(D)	(D)	-6	481	115	488	10	(D)	-8	-41	60	47
Bahamas	(D)	(D)	(D)	0	0	(D)	(D)	-1	3	0	0	(D)	0	5	-5	-11
Bermuda	22	-109	10	(D)	(D)	(D)	(D)	(D)	111	-5	(D)	(D)	-4	6	6	(D)
Netherlands Antilles	1967	35	1912	(D)	(D)	(D)	(*)	594	(*)	64	9	-49	(D)	-63	56	(D)
U. K. Islands, Caribbean	144	(D)	-93	27	-1	-5	(D)	(D)	1	(D)	(D)	231	(D)	-52	1	46
Other	(D)	1	(D)	(*)	(D)	0	-1	0	(*)	(D)	0	0	2	62	2	(D)
Africa	-41	(D)	(D)	-2	-5	(D)	2	(D)	-9	(*)	-4	(*)	0	16	(D)	7
South Africa	(D)	0	(D)	1	-5	(D)	2	1	(D)	0	-3	0	0	0	0	-2
Other	(D)	(D)	(D)	-2	(*)	3	(*)	(D)	(D)	(*)	-1	(*)	0	16	(D)	8
Middle East	1378	(D)	(D)	0	(*)	(D)	1	(D)	-34	(D)	-5	(D)	0	24	(D)	107
Israel	-56	0	(*)	0	1	0	(*)	0	-42	(D)	34	(D)	0	(*)	-3	-3
Kuwait	-99	(D)	(D)	0	0	(D)	0	(*)	(D)	(D)	(D)	0	0	39	(D)	(D)
Lebanon	-2	0	(*)	0	0	0	(D)	(D)	(*)	(*)	(*)	0	0	-2	0	0
Saudi Arabia	1508	(D)	(D)	0	-1	0	(D)	(D)	(D)	0	(D)	(D)	0	-10	(D)	(*)
United Arab Emirates	67	-3	-1	0	0	0	0	-1	0	0	18	0	0	(*)	(D)	(D)
Other	-41	(D)	(D)	0	0	(D)	0	0	(D)	(D)	-48	(D)	0	-2	(*)	(D)
Asia and Pacific	20587	126	6457	199	495	968	1186	3609	3111	(D)	856	2405	(D)	3184	2287	1708
Australia	2741	179	616	(D)	(D)	132	65	485	261	(D)	-9	(D)	(D)	65	166	(D)
Hong Kong	88	(D)	-84	(D)	(D)	(D)	-89	-49	151	(D)	81	(D)	1	-20	-86	(D)
Japan	17205	-32	5831	109	735	727	1111	3148	2495	106	738	2622	80	3112	2207	46
Korea, Republic of	353	11	(*)	(*)	0	(*)	10	-9	247	0	(D)	(*)	0	2	-1	(D)
Malaysia	52	0	39	-1	0	0	40	0	(*)	0	(D)	0	0	18	0	(D)
New Zealand	-70	(*)	(D)	(D)	(D)	(*)	-1	(*)	6	0	(D)	-2	26	-8	(*)	(D)
Philippines	5	-1	(D)	(D)	0	0	0	0	5	0	2	0	(D)	(*)	0	(*)
Singapore	119	(D)	30	0	(D)	(D)	(D)	(D)	5	(*)	2	(D)	-4	16	(D)	1
Taiwan	131	(*)	64	0	-3	(*)	(D)	(D)	31	0	8	(D)	0	3	(D)	(*)
Other	-38	-1	32	(D)	-2	(D)	(D)	-9	-88	0	25	0	(D)	-5	(D)	-1
Addenda:																
European Communities (12)	31032	-2433	21979	120	3739	852	3969	13299	2108	1080	1646	-1244	1473	630	5219	575
OPEC	1629	64	4	(D)	-6	(D)	(D)	-3	20	(D)	(D)	(D)	-1	29	(D)	112

Table 4.--Foreign Direct Investment in the United States: Capital Inflows, by Country of FPG, by Industry of Affiliate, 1989

[Millions of dollars; outflows (-)]

	All industries	Petroleum	Manufacturing						Wholesale trade	Retail trade	Banking	Finance, except banking	Insurance	Real estate	Services	Other industries
			Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery	Other manufacturing								
All countries	69010	858	38604	7757	13341	3223	7820	6463	4308	-1328	2221	11210	2239	3800	6399	699
Canada	1793	50	964	-37	-12	-866	150	1730	-67	-1456	1	397	440	340	302	821
Europe	43046	-410	31706	7322	11791	3167	5846	3579	1952	-238	1566	3254	1473	502	3733	-492
Austria	290	0	-5	0	(D)	(D)	-11	4	8	-2	(D)	(D)	(*)	(*)	(D)	(D)
Belgium	467	(D)	112	(D)	(D)	-3	(D)	-7	108	197	13	(D)	(*)	42	(D)	-16
Denmark	47	(D)	2	(D)	(D)	1	-2	(*)	4	(D)	20	0	0	0	-1	19
Finland	998	(D)	815	(D)	(D)	(D)	93	302	(D)	(*)	16	(D)	2	-1	-3	(D)
France	2744	(D)	2336	337	572	(D)	(D)	138	-127	-27	181	-701	-17	(*)	199	(D)
Germany, Federal Republic of	3738	757	1940	-30	1433	205	66	266	651	12	356	-57	206	-132	10	-5
Ireland	1008	-1	269	(D)	-2	0	170	(D)	(D)	5	(D)	(D)	0	20	(D)	(*)
Italy	850	(D)	161	-15	-35	6	199	5	48	2	73	(D)	(D)	(*)	-4	(D)
Liechtenstein	-13	(*)	1	(*)	0	(D)	(D)	(D)	(*)	0	0	-6	0	(*)	-6	-3
Luxembourg	509	(D)	1	(*)	(*)	2	(D)	(D)	-54	1	-4	545	0	27	(D)	-4
Netherlands	7323	799	5991	534	2784	415	1981	277	785	-67	416	127	-2	314	367	-1406
Norway	364	(D)	35	6	(D)	(D)	7	(*)	20	(D)	(D)	4	(D)	-2	106	-2
Spain	90	-4	34	(*)	27	2	-3	9	-47	10	34	(D)	(D)	(D)	-1	0
Sweden	587	(D)	-8	-1	156	11	-258	83	109	(D)	(D)	(D)	404	(D)	14	11
Switzerland	5184	18	3922	(D)	791	(D)	1246	49	9	86	-25	490	577	-6	63	50
United Kingdom	18939	-2972	16096	6202	5941	-121	1703	2370	424	-458	64	1727	281	145	2925	707
Other	-78	(D)	5	(D)	(D)	0	(D)	-4	(D)	0	-13	(D)	0	6	1	(D)
Latin America and Other Western Hemisphere	4069	591	-136	31	101	-310	-65	106	-134	252	64	3485	(D)	-469	(D)	-80
South and Central America	1095	(D)	-33	-4	(D)	(D)	45	(D)	47	52	49	(D)	(D)	-29	(D)	(D)
Brazil	145	(D)	-1	(*)	-11	1	10	(*)	62	(*)	78	0	(D)	(*)	0	-10
Mexico	107	4	(D)	-1	(D)	(D)	21	(D)	16	1	(D)	1	0	-3	(D)	-2
Panama	148	(*)	-143	-4	(D)	(D)	-10	10	-20	51	(D)	(D)	(D)	-23	(D)	-3
Venezuela	616	(D)	19	0	6	(*)	12	1	(D)	0	5	(*)	0	-1	0	-1
Other	79	(D)	(D)	(*)	(D)	2	12	(D)	(D)	(*)	18	(D)	-1	-2	(*)	(D)
Other Western Hemisphere	2974	(D)	-103	36	(D)	(D)	-110	(D)	-181	200	15	(D)	-15	-440	(D)	(D)
Bahamas	(D)	(D)	(D)	0	0	(D)	(D)	(D)	12	0	0	(D)	(*)	3	-11	-8
Bermuda	-110	10	84	(D)	(D)	(D)	-1	(D)	-59	(D)	(D)	(D)	-17	-64	8	(D)
Netherlands Antilles	-126	-36	-60	(D)	(D)	(D)	-17	-20	-86	43	14	66	-5	-379	322	-5
U.K. Islands, Caribbean	3201	(D)	52	105	1	0	(D)	(D)	-44	(D)	(D)	3230	(*)	-4	115	-35
Other	(D)	1	(D)	0	-1	0	4	(D)	-3	(D)	0	-1	7	4	(D)	-1
Africa	55	(D)	(D)	4	17	(D)	(*)	(D)	-23	(*)	-1	(*)	(*)	-11	(D)	-2
South Africa	-11	0	(D)	2	(D)	(D)	-2	(*)	(D)	0	0	(*)	0	0	0	-3
Other	66	(D)	(D)	2	(D)	(D)	2	(D)	(D)	(*)	-1	(*)	(*)	-11	(D)	1
Middle East	900	(D)	(D)	0	4	(D)	-3	(D)	-22	(D)	22	-24	0	115	(D)	-32
Israel	15	0	(*)	0	(D)	0	(D)	0	-7	(D)	26	(D)	0	(*)	3	(D)
Kuwait	257	(D)	(D)	0	0	(D)	0	(*)	(D)	(D)	(D)	0	0	140	(D)	(D)
Lebanon	-2	0	(D)	0	0	0	(D)	(D)	(*)	(*)	0	0	0	(D)	0	0
Saudi Arabia	611	(D)	(D)	0	(D)	0	(D)	(D)	-1	0	(D)	(D)	0	-16	(D)	(*)
United Arab Emirates	2	-1	1	0	0	0	0	1	0	0	-3	0	0	(*)	(D)	(D)
Other	19	(D)	(D)	0	0	(D)	0	0	(D)	(*)	12	(D)	0	(D)	(*)	(D)
Asia and Pacific	19147	(D)	5918	437	1440	1104	1892	1046	2602	(D)	569	4097	(D)	3322	2008	485
Australia	-81	93	-144	170	-83	-23	61	-269	384	(D)	-65	-478	(D)	32	-35	(D)
Hong Kong	388	(D)	342	(D)	(D)	(D)	313	12	-26	13	15	(D)	-8	2	6	(D)
Japan	18653	-61	5198	231	1160	1124	1382	1300	3020	121	559	4329	93	3082	2008	305
Korea, Republic of	-821	(D)	9	(D)	0	(D)	-11	8	-905	0	37	(D)	0	(*)	(D)	3
Malaysia	(*)	(*)	-1	1	0	0	-2	0	-1	0	(D)	0	0	(*)	0	(D)
New Zealand	-47	(*)	(D)	(D)	(D)	(*)	3	-5	-5	0	(D)	30	23	6	(*)	(D)
Philippines	6	1	(D)	(D)	0	0	0	0	7	0	(*)	0	(D)	(*)	0	(*)
Singapore	471	-8	226	9	(D)	(D)	174	(D)	12	(*)	(D)	(D)	0	(D)	(D)	-2
Taiwan	421	(*)	324	0	340	(*)	(D)	(D)	-5	0	16	(D)	0	(D)	(D)	0
Other	158	1	(D)	15	2	(D)	(D)	-7	120	(D)	32	(*)	(D)	6	(D)	(*)
Addenda:																
European Communities (12)	35699	-629	26940	7030	10829	1181	4756	3144	1821	-322	1516	2482	473	413	3557	-552
OPEC	1503	1218	(D)	(D)	6	(D)	12	1	-22	(D)	13	(D)	-1	122	(D)	-21

Table 5.--Foreign Direct Investment in the United States: Capital Inflows, by Country of FPG, by Industry of Affiliate, 1990

[Millions of dollars; outflows (-)]

	All industries	Petroleum	Manufacturing						Wholesale trade	Retail trade	Banking	Finance, except banking	Insurance	Real estate	Services	Other industries
			Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery	Other manufacturing								
All countries	46188	368	16655	-748	7866	4166	713	4658	7134	-155	884	-2439	4847	6861	18479	3154
Canada	1414	14	712	-188	76	8	78	666	-112	-618	193	-48	566	178	161	369
Europe	21439	-248	18754	-948	6847	3667	-314	1583	1683	399	-999	-1474	3898	1186	4676	2532
Austria	226	8	38	8	(D)	(D)	39	5	28	-3	-53	(D)	(*)	(*)	8	(D)
Belgium	81	(D)	214	(D)	247	-3	(D)	29	-218	168	-54	(D)	(*)	-5	(D)	-21
Denmark	165	(D)	99	(D)	(D)	-1	93	3	6	(D)	15	8	8	8	33	18
Finland	481	-3	184	(D)	(D)	(D)	-8	129	16	(*)	(D)	(D)	1	-1	1	(D)
France	5726	(D)	5859	213	2386	(D)	(D)	1919	138	78	314	-2586	73	46	1726	(D)
Germany	726	-686	297	-532	34	159	625	11	984	369	88	-1616	978	125	28	166
Ireland	-218	-1	-139	23	2	8	-278	113	(D)	8	(D)	(D)	8	(D)	(D)	0
Italy	424	(D)	138	-3	156	-1	-16	3	158	-2	-14	(D)	(D)	1	-89	-15
Liechtenstein	6	(*)	4	(*)	8	1	(D)	(D)	18	8	8	-7	8	18	-5	-7
Luxembourg	1792	(D)	3	(*)	(*)	5	(D)	(D)	-2	-3	-15	(D)	8	52	(D)	428
Netherlands	6397	895	1889	625	815	493	-21	-23	1333	-536	-891	-881	-33	1173	2771	677
Norway	288	8	188	-3	(D)	(D)	-6	-11	54	(D)	(D)	(*)	(D)	(D)	1	9
Spain	187	4	67	1	(D)	(D)	2	-3	22	14	3	(D)	(D)	6	-1	-3
Sweden	588	(D)	1892	(*)	-95	-27	535	688	-358	(D)	(D)	(D)	15	74	2	-41
Switzerland	-568	182	-1828	(D)	-397	(D)	-846	-163	-288	-27	-21	-298	755	24	145	-11
United Kingdom	5226	-682	1936	-1588	3539	1564	-464	-1194	-378	338	-365	2784	836	-468	-116	1342
Other	-22	(D)	(*)	(D)	(*)	8	(D)	6	(D)	8	-15	-4	8	-4	1	(D)
Latin America and Other Western Hemisphere	4948	1872	1755	41	-183	38	-42	1989	1882	57	157	(D)	(D)	-389	(D)	(D)
South and Central America	915	568	45	-5	(D)	(D)	-27	(D)	-124	-28	114	47	(D)	-16	-8	(D)
Brazil	-45	(D)	-4	(*)	5	(*)	-6	-3	-85	8	34	8	(D)	(*)	-2	-5
Mexico	199	-1	(D)	-2	-5	4	(D)	(D)	-8	(*)	(D)	2	8	3	-7	7
Panama	817	588	-81	-3	(D)	(D)	-22	17	-27	-28	(D)	(D)	(D)	-11	(*)	-2
Venezuela	-78	-41	7	8	-3	8	6	4	-2	8	(D)	(*)	8	-3	(*)	(D)
Other	16	(D)	(D)	(*)	(D)	-2	(D)	(D)	-1	(*)	51	(D)	-1	-6	(*)	(D)
Other Western Hemisphere	4825	512	1711	46	(D)	(D)	-15	(D)	1285	77	43	(D)	(D)	-373	(D)	(D)
Bahamas	1563	(D)	(D)	8	8	(D)	(D)	(D)	(D)	8	8	(D)	(*)	6	(D)	-18
Bermuda	722	11	-69	-1	(D)	(D)	(*)	(D)	754	(D)	(D)	-44	-1	5	12	(D)
Netherlands Antilles	4873	(D)	1644	51	(D)	(D)	-4	1637	-13	-38	17	61	(D)	-353	2888	17
U.K. Islands, Caribbean	-2315	(D)	48	-4	(*)	18	-26	59	423	178	(D)	-2799	(*)	33	68	-19
Other	-18	(D)	(D)	8	1	8	(D)	(D)	(D)	(D)	8	1	(D)	-64	(D)	7
Africa	-1	(D)	(D)	(*)	(D)	(D)	2	-1	-1	(*)	-4	(D)	(*)	-78	-3	53
South Africa	-15	8	(D)	-2	(D)	(D)	(*)	(*)	(D)	8	8	(*)	8	8	8	(D)
Other	14	(D)	(D)	2	(D)	(D)	2	(*)	(D)	(*)	-4	(D)	(*)	-78	-3	(D)
Middle East	-615	(D)	(D)	8	(D)	(D)	-36	-1	-13	23	-22	(D)	8	39	(D)	-72
Israel	-9	8	-36	8	(D)	8	(D)	8	-13	22	6	(D)	8	-1	8	(D)
Kuwait	74	(D)	(D)	8	8	(D)	8	-1	(*)	2	(D)	1	8	77	(D)	(D)
Lebanon	-9	8	(D)	8	8	8	(D)	8	(*)	(D)	8	8	8	(D)	8	8
Saudi Arabia	-621	(D)	(D)	8	(D)	8	(D)	0	(*)	8	(D)	(D)	8	-21	(D)	-1
United Arab Emirates	-15	2	(*)	8	8	8	8	(*)	8	8	3	8	8	-1	(D)	(D)
Other	-34	(D)	(*)	8	8	(*)	8	8	8	(D)	-5	(*)	8	(D)	(*)	(D)
Asia and Pacific	18938	(D)	3393	275	1834	478	1833	573	4574	-15	1481	266	(D)	5214	3581	(D)
Australia	1366	-92	786	-18	128	182	282	213	-67	(D)	19	552	(D)	112	-24	(D)
Hong Kong	188	(D)	-143	(D)	(D)	(D)	-135	-37	58	-18	81	-38	7	23	(D)	(D)
Japan	17355	148	2254	87	562	259	989	357	4949	-34	1282	-123	33	5234	3456	164
Korea, Republic of	-688	(D)	48	(D)	8	(D)	-7	13	-467	(D)	36	(D)	5	8	(D)	-6
Malaysia	19	(*)	-9	1	-1	8	-9	-1	15	8	12	(*)	8	(*)	8	(*)
New Zealand	45	(D)	98	(D)	(D)	8	-2	(D)	-12	8	(D)	-2	3	-63	(*)	(D)
Philippines	-5	-1	(D)	(D)	(*)	8	1	(D)	2	8	-8	8	(D)	(*)	8	(D)
Singapore	228	-1	184	16	(D)	(D)	-142	-9	45	8	(D)	175	8	(D)	(*)	5
Taiwan	346	(D)	255	(D)	3	(*)	121	(D)	34	8	38	(D)	8	(D)	(*)	8
Other	77	-1	(D)	27	(D)	(D)	14	41	16	(D)	-18	(*)	(D)	(D)	(D)	(*)
Addenda:																
European Communities (12)	28484	-361	18366	-1226	7196	3564	-27	868	2865	427	-948	-1392	2281	1806	4532	2582
OPEC	-662	-617	(D)	-2	-4	(D)	6	4	-2	2	-69	(D)	-1	52	(D)	-55

Table 6 --Foreign Direct Investment in the United States: Capital Inflows, Country of FPG by Industry of Affiliate, 1991

[Millions of dollars; outflows (-)]

	All industries	Petroleum	Manufacturing						Wholesale trade	Retail trade	Banking	Finance, except banking	Insurance	Real estate	Services	Other industries
			Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery	Other manufacturing								
All countries	12619	-2251	6617	281	3721	389	184	2123	2154	-1291	1918	2541	4246	-780	53	-668
Canada	-1324	-539	111	-44	153	-54	112	-56	-329	-712	219	296	132	-585	277	-193
Europe	8212	-1576	5088	583	3838	319	-158	1290	799	-1698	385	-433	3678	77	2372	-392
Austria	-157	(*)	7	(*)	(D)	(D)	2	6	-24	-2	-119	(D)	(*)	(*)	2	(D)
Belgium	-184	(D)	-112	(D)	-38	(*)	(D)	-89	-196	78	(D)	(D)	(D)	-3	8	-29
Denmark	396	(D)	358	(D)	(D)	(D)	-1	-6	-15	(D)	31	8	0	0	18	2
Finland	46	-27	-67	(D)	(D)	(D)	-47	-189	35	(*)	(D)	(D)	(D)	-1	(*)	(D)
France	3784	(D)	846	358	184	(D)	(D)	699	-106	-6	64	1218	1122	-13	245	(D)
Germany	1258	488	1132	-165	828	-391	864	-4	349	-325	64	-446	193	-59	17	-74
Ireland	96	-2	31	41	2	8	109	-122	19	8	(D)	(D)	0	(D)	(D)	8
Italy	-443	13	178	(*)	(D)	(D)	-1	59	3	-8	151	(D)	(D)	-1	-55	-26
Liechtenstein	-83	(D)	-18	(D)	0	(*)	-3	(D)	-6	8	1	(D)	0	-53	-4	-3
Luxembourg	-986	(D)	18	(*)	3	15	-6	5	(*)	(D)	-23	(D)	0	-20	(D)	(D)
Netherlands	29	-585	-379	493	-1848	689	7	-528	595	-1113	-385	1213	993	261	-224	-427
Norway	-220	(D)	-37	(D)	(D)	(D)	-3	18	90	(D)	-68	(*)	(D)	(D)	-8	-5
Spain	385	(*)	-7	(*)	(D)	(D)	-3	-19	-8	9	275	(D)	(D)	-1	-2	-3
Sweden	145	(D)	251	(*)	333	51	-61	-72	-263	(D)	(D)	(D)	225	178	-1	-58
Switzerland	24	13	-467	(D)	-27	(D)	-169	76	47	249	-31	455	78	-81	-217	-21
United Kingdom	4218	-1623	3329	189	2658	-166	-738	1466	279	-565	273	-487	564	-133	2598	-23
Other	-9	(D)	18	(D)	-1	8	15	(D)	1	8	-24	-4	8	-1	1	(D)
Latin America and Other Western Hemisphere	-488	9	-193	-2	57	-38	-62	-156	-36	524	220	(D)	(D)	-227	-2898	(D)
South and Central America	238	11	-136	-2	(D)	(D)	-39	8	-12	-18	214	-9	(D)	-47	-2	(D)
Brazil	186	(D)	-11	-2	-6	-1	-1	-1	31	8	82	8	(D)	(*)	2	18
Mexico	59	-1	14	2	-1	(*)	(D)	(D)	-14	(*)	78	(*)	8	-2	-4	-4
Panama	88	(D)	-155	-1	(D)	(D)	-28	(D)	-21	-18	(D)	52	(D)	-36	-1	-6
Venezuela	31	6	-7	8	-4	8	-3	-1	3	8	(D)	3	0	-3	(D)	(D)
Other	-45	(D)	23	(*)	(D)	(*)	(D)	(D)	-13	(*)	35	-64	-1	-5	(D)	(D)
Other Western Hemisphere	-718	-3	-57	(*)	(D)	(D)	-23	-164	-24	542	5	(D)	(D)	-181	-2889	(D)
Bahamas	-325	(D)	(D)	(D)	8	(D)	(D)	-1	(D)	8	8	(D)	0	38	(D)	-5
Bermuda	20	-24	-3	(D)	(D)	(D)	8	(D)	-44	(D)	(D)	-3	12	189	56	-17
Netherlands Antilles	-3873	(D)	-171	(D)	(D)	(D)	-4	-226	-45	715	8	-42	(D)	-532	-2978	(D)
U.K. Islands, Caribbean	2342	(D)	-29	-14	(*)	-23	1	8	54	-182	(D)	2268	(*)	228	18	-98
Other	319	(D)	(D)	8	(*)	8	(D)	(D)	(D)	(D)	8	(D)	(D)	-15	(D)	-2
Africa	-259	(D)	(D)	1	(D)	(D)	1	(*)	-145	(D)	5	(D)	8	-37	(D)	28
South Africa	-81	8	12	8	(D)	(D)	1	(*)	(D)	8	8	(*)	8	8	0	(D)
Other	-178	(D)	(D)	1	(D)	(D)	1	(*)	(D)	(D)	5	(D)	8	-37	(D)	(D)
Middle East	484	(D)	(D)	8	(D)	(D)	39	1	184	(D)	283	(D)	8	257	(D)	-36
Israel	451	0	48	8	(D)	8	(D)	2	101	(D)	316	(D)	8	-1	8	(D)
Kuwait	287	(D)	(D)	8	8	(D)	8	-1	(*)	(D)	15	1	8	282	(D)	(D)
Lebanon	-9	8	(D)	8	8	8	(D)	8	(*)	(D)	8	0	8	-9	8	0
Saudi Arabia	-215	(D)	(D)	8	(D)	8	(D)	8	3	8	-31	(*)	0	-8	(D)	-1
United Arab Emirates	(*)	-1	-1	8	-1	8	8	(*)	0	8	1	8	0	-1	(D)	(D)
Other	-38	(D)	(*)	8	8	(*)	8	0	0	(D)	-18	(D)	0	-6	(*)	-3
Asia and Pacific	5987	151	1567	-257	471	144	163	1845	1762	601	887	613	(D)	-184	282	(D)
Australia	186	63	-26	-268	38	-17	-13	242	2	(D)	-47	(D)	(D)	-9	-7	(D)
Hong Kong	199	(D)	-77	(D)	(D)	(D)	-49	-2	-37	108	52	129	-1	-13	(D)	18
Japan	5183	186	1392	-17	345	143	86	836	1289	506	829	699	178	-75	246	21
Korea, Republic of	389	(D)	19	1	(*)	1	3	13	477	(D)	29	(D)	(*)	4	(D)	2
Malaysia	31	(D)	-5	(*)	(*)	8	-5	-1	47	8	-4	(*)	8	(*)	(D)	(*)
New Zealand	-5	(D)	-1	(D)	-3	4	-2	(D)	4	8	(D)	-2	-3	5	(D)	7
Philippines	-28	1	-1	(D)	(*)	8	(*)	(D)	-19	0	-9	8	(D)	-1	8	(D)
Singapore	-233	2	48	(D)	(D)	(D)	33	4	-30	8	(D)	-179	8	(D)	2	(D)
Taiwan	292	(D)	287	(D)	108	(*)	124	(D)	-10	8	28	(D)	0	-2	(D)	1
Other	-27	-1	-69	-2	(D)	(D)	-16	-56	38	0	15	(*)	(D)	(D)	1	(D)
Addenda:																
European Communities (12)	8418	-1389	5383	873	2658	277	117	1459	923	-1935	424	-335	3811	45	2688	-318
OPEC	123	-192	(D)	-2	-4	(D)	-3	-3	4	(D)	21	(D)	-1	268	39	-15

Table 7.--Foreign Direct Investment Position in the United States on a Historical-Cost Basis, by Country of FPG, 1980-91

[Millions of dollars]

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
All countries	83046	108714	124677	137061	164583	184615	220414	263394	314754	368924	396702	407577
Canada	12162	12116	11708	11434	15286	17131	20318	24684	26566	30370	30037	30002
Europe	54688	72377	83193	92936	108211	121413	144181	181006	208942	239190	250973	258127
Austria	134	141	148	218	243	127	118	245	392	386	623	472
Belgium	1554	1891	1984	2261	2548	2291	2487	3371	3471	3799	3866	3653
Denmark	174	225	274	388	404	577	552	498	588	656	819	1219
Finland	34	40	53	67	164	228	195	295	452	1297	1513	1547
France	3731	5876	5788	5726	6591	6678	7789	10137	13233	15365	18665	22740
Germany	7596	9459	9858	10845	12338	14816	17258	21985	25258	28386	28389	28171
Ireland	98	138	132	219	285	(D)	368	544	725	1416	1208	1292
Italy	488	829	1128	1238	1438	1237	1323	1318	752	1436	1869	2859
Liechtenstein	197	254	214	129	178	221	238	198	181	177	181	98
Luxembourg	261	282	336	297	753	345	263	590	-131	487	2118	974
Netherlands	19140	26824	26191	29182	33728	37056	48717	46636	48128	56734	63938	63848
Norway	148	273	243	311	311	396	241	352	228	576	773	556
Spain	179	281	273	194	231	273	350	442	511	681	798	1161
Sweden	1678	1693	1739	2124	2258	2357	3963	4918	4713	5435	5467	5597
Switzerland	5078	5474	6378	7464	8146	10568	12858	13772	14372	18746	17745	17594
United Kingdom	14185	18585	28447	32152	38387	43555	55935	75519	95698	103458	102798	106064
Other	189	288	191	289	224	(D)	438	288	388	316	299	282
Latin America and Other Western Hemisphere	9678	11739	14229	15035	16201	16826	16763	10103	11243	16218	19616	17673
South and Central America	1260	1426	2806	2747	2859	3491	4190	3935	4331	5819	6020	6466
Brazil	155	110	100	84	160	201	102	293	286	428	378	488
Mexico	136	163	259	244	308	533	847	180	218	358	558	688
Panama	811	913	2168	2073	1924	2204	2282	2627	2878	3392	4899	4367
Venezuela	23	29	66	24	48	103	476	411	548	1163	489	544
Other	135	211	213	322	419	450	483	425	489	486	583	458
Other Western Hemisphere	8418	10313	11422	12289	13343	13335	12573	6168	6911	10399	13596	11208
Bahamas	285	241	164	175	158	154	389	179	(D)	-52	1508	1195
Bermuda	727	1062	1337	1168	1378	1691	2082	1087	1867	1012	1517	1323
Netherlands Antilles	6651	8232	9190	9948	10935	10443	9685	8062	8935	8733	12584	7948
U. K. Islands, Caribbean	746	766	717	985	866	1028	560	-3335	-3867	-215	-2935	-466
Other	9	12	14	13	14	19	17	175	(D)	922	923	1208
Africa	170	196	102	106	198	457	251	521	441	505	512	309
South Africa	16	16	10	-28	-25	-12	72	(D)	37	26	10	-10
Other	154	180	92	134	223	469	179	(D)	404	480	502	319
Middle East	916	3588	4401	4446	5336	4954	4870	4973	6578	7588	4423	4798
Israel	324	312	428	449	525	494	567	632	587	638	626	1805
Kuwait	335	2994	3567	3606	4333	3968	3771	3898	3954	4288	1831	2000
Lebanon	1	2	3	5	31	48	49	(*)	-7	-9	-18	-27
Saudi Arabia	228	247	370	353	425	428	436	257	1826	2455	1883	1588
United Arab Emirates	5	9	10	11	21	19	4	43	111	112	97	97
Other	23	24	23	22	1	13	43	142	108	119	85	55
Asia and Pacific	5431	8698	11045	13105	19351	23834	34031	42108	60992	75053	91141	96668
Australia	338	572	730	938	2125	3264	5466	5369	7171	4962	6539	6626
Hong Kong	148	169	229	324	659	648	685	941	895	1124	1199	1272
Japan	4723	7697	9677	11336	16044	19313	26824	34421	51126	67268	81775	86658
Korea, Republic of	-134	-103	-55	-57	-81	-181	383	198	585	-307	-1000	-542
Malaysia	16	21	14	22	22	16	39	7	42	29	56	85
New Zealand	74	98	96	98	52	72	97	263	154	166	138	131
Philippines	73	77	102	116	121	118	113	73	73	82	74	58
Singapore	93	26	97	186	288	242	169	391	518	934	1147	914
Taiwan	61	74	80	69	78	187	177	199	329	476	824	1115
Other	39	67	75	81	131	163	158	246	186	318	389	368
Addenda:												
European Communities /1/	47187	64145	74812	82286	96555	107105	127221	161061	188342	212361	224447	232887
OPEC	642	3336	4045	4039	4892	4687	4787	4658	6487	8867	4246	4275

Table 8.--Foreign Direct Investment Position in the United States on a Historical-Cost Basis, Country of UBO by Industry of Affiliate, 1988

[Millions of dollars; outflows (-)]

	All industries	Petroleum	Manufacturing						Wholesale trade	Retail trade	Banking	Finance, except banking	Insurance	Real estate	Services	Other industries
			Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery	Other manufacturing								
All countries	314,754	36,006	122,582	16,458	30,926	10,873	22,452	41,874	43,725	9,865	16,906	8,113	18,991	25,867	19,048	13,651
Canada	34,279	1,123	16,567	5,290	336	3,437	2,408	5,096	2,168	2,277	1,687	-116	2,503	3,685	1,006	3,379
Europe	191,999	33,346	89,920	10,036	28,562	5,138	16,475	29,709	21,180	5,670	6,416	-911	14,753	7,915	9,164	4,545
Austria	536	42	246	0	(D)	(D)	174	47	178	3	(D)	(*)	0	12	(D)	16
Belgium	4,148	(D)	1,028	(D)	(D)	58	254	158	312	260	176	398	0	128	-4	(D)
Denmark	698	4	120	(D)	1	0	(D)	72	285	(D)	11	0	0	(D)	79	176
Finland	413	(D)	405	(D)	(D)	(D)	93	18	(D)	1	15	79	(D)	4	-11	0
France	15,564	3,007	8,641	1,312	2,332	831	1,171	2,994	1,952	259	611	-10	128	190	251	535
Germany, Federal Republic of	27,922	450	15,817	74	9,098	860	2,664	3,120	5,648	1,101	544	555	1,845	1,076	125	762
Ireland	838	9	484	(D)	(D)	0	85	353	(D)	0	(D)	0	0	8	(D)	(D)
Italy	2,675	(D)	2,326	221	1,930	8	57	110	448	16	608	(D)	(D)	192	4	107
Liechtenstein	1,441	-5	(D)	1	0	5	-4	(D)	91	(D)	0	18	0	86	-12	44
Luxembourg	616	-3	226	3	0	4	0	219	100	0	11	176	0	60	12	33
Netherlands	35,499	18,219	7,962	681	4,347	114	2,283	536	448	1,158	624	417	3,313	2,296	774	289
Norway	265	9	228	-4	87	(D)	38	(D)	27	(D)	(D)	-148	(D)	6	-23	-3
Spain	483	0	(D)	(D)	0	0	0	21	79	41	313	2	(D)	7	4	(*)
Sweden	4,835	(D)	3,826	(D)	497	(D)	2,275	646	1,501	2	(D)	(D)	259	(D)	184	28
Switzerland	13,885	27	8,584	(D)	3,548	391	678	(D)	2,018	208	104	-1,026	2,570	468	696	236
United Kingdom	81,793	9,417	38,795	4,678	6,161	2,189	6,696	19,070	7,879	2,548	2,947	1,467	6,255	3,263	7,001	2,220
Other	388	0	36	(D)	0	(*)	(D)	14	125	0	128	4	0	88	1	6
Latin America and Other Western Hemisphere	7,400	632	938	50	(D)	42	(D)	617	495	(D)	1,361	904	(D)	1,092	1,399	201
South and Central America	3,931	476	281	(*)	(D)	42	(D)	81	335	(D)	1,355	782	(D)	509	36	127
Brazil	1,302	(D)	(D)	0	0	0	(D)	2	58	0	622	(D)	(D)	8	2	15
Mexico	545	30	3	(*)	0	-1	(*)	4	120	5	121	19	0	210	-21	57
Panama	509	0	218	0	(D)	41	-3	(D)	62	(*)	(D)	81	3	96	(D)	2
Venezuela	915	(D)	(D)	0	-2	0	0	(D)	(D)	0	186	(D)	0	76	3	27
Other	660	4	4	0	0	1	3	0	(D)	(D)	(D)	5	3	118	(D)	25
Other Western Hemisphere	3,469	156	657	50	0	0	72	536	160	277	6	122	72	583	1,363	74
Bahamas	248	0	66	0	0	0	(D)	(D)	59	2	0	13	0	141	(*)	-33
Bermuda	2,129	(D)	53	3	0	0	0	50	81	(D)	6	82	69	147	(D)	(D)
Netherlands Antilles	825	(D)	(D)	0	0	0	-1	(D)	9	0	0	(D)	0	251	(D)	5
U. K. Islands, Caribbean	252	0	(D)	47	0	0	(D)	(D)	10	(D)	0	17	1	45	(D)	94
Other	15	0	0	0	0	0	0	0	1	-1	0	(D)	2	(*)	0	(D)
Africa	1,356	276	391	43	(*)	(D)	(D)	1	422	(*)	-1	(D)	0	(D)	39	27
South Africa	941	(D)	392	46	(*)	(D)	(D)	1	389	0	-3	(D)	0	3	39	-3
Other	415	(D)	-1	-2	0	0	1	0	33	(*)	2	-8	0	(D)	1	30
Middle East	10,479	(D)	80	0	13	-1	6	61	8	(D)	1,370	549	0	3,199	4,338	343
Israel	688	0	17	0	(D)	0	(D)	0	(D)	(D)	463	213	0	(*)	2	8
Kuwait	5,074	(D)	3	0	0	-1	0	4	(D)	(D)	21	1	0	1,940	(D)	(D)
Lebanon	202	(D)	(D)	0	(D)	0	(D)	(D)	(*)	0	4	0	0	28	(D)	0
Saudi Arabia	2,974	35	(D)	0	1	0	0	(D)	25	0	14	335	0	659	(D)	173
United Arab Emirates	1,361	0	0	0	0	0	0	0	0	(*)	(D)	0	0	452	25	(D)
Other	180	0	-37	0	0	0	0	-37	0	19	(D)	1	0	121	7	(D)
Asia and Pacific	67,301	141	14,647	1,038	1,823	2,044	3,372	6,370	19,143	1,362	6,072	7,564	486	9,628	3,102	5,156
Australia	9,797	201	1,834	395	(D)	589	(D)	802	380	(D)	11	1,041	(D)	386	338	(D)
Hong Kong	3,497	2	274	(D)	0	0	(D)	177	61	(D)	(D)	(D)	0	352	231	-30
Japan	51,696	-42	11,766	429	1,851	1,306	3,243	4,936	18,479	415	4,369	5,374	266	8,245	2,326	500
Korea, Republic of	384	-19	36	1	0	0	25	10	178	0	74	5	0	6	10	94
Malaysia	224	0	(D)	0	0	0	0	(D)	-1	0	-1	5	0	69	(D)	(D)
New Zealand	300	0	221	(D)	(D)	(D)	(D)	(D)	38	(D)	(D)	(D)	(D)	107	(*)	(D)
Philippines	134	0	(D)	(D)	0	0	0	0	(*)	0	66	0	0	(D)	0	0
Singapore	392	0	-5	0	0	0	(D)	(D)	1	0	15	0	0	379	3	0
Taiwan	446	0	242	0	0	2	0	240	74	0	96	(D)	0	(D)	0	0
Other	431	0	53	(D)	0	(D)	1	10	-67	0	156	0	(D)	86	(D)	3
United States	1,940	(D)	39	(*)	(D)	(D)	57	20	309	2	0	(D)	(D)	(D)	(*)	0
Addenda:																
European Communities (12)	170,419	33,053	75,434	7,075	24,418	4,065	13,222	26,653	17,219	5,397	6,152	1,399	11,946	7,290	8,310	4,221
OPEC	10,668	904	156	(D)	(D)	(D)	0	133	49	(D)	1,113	408	3	3,206	(D)	363

Table 9--Foreign Direct Investment Position in the United States on a Historical-Cost Basis, Country of UBO by Industry of Affiliate, 1989

[Millions of dollars; outflows (-)]

	All industries	Petroleum	Manufacturing						Wholesale trade	Retail trade	Banking	Finance, except banking	Insurance	Real estate	Services	Other industries
			Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery	Other manufacturing								
All countries	368,924	40,345	150,949	23,585	38,408	15,110	27,839	46,008	45,456	8,549	18,431	18,657	22,509	30,386	20,614	13,027
Canada	39,923	998	18,150	6,330	302	2,051	2,875	6,591	2,360	1,435	1,716	1,132	3,481	5,176	548	4,928
Europe	220,608	32,161	110,847	15,623	34,996	9,090	19,814	31,325	21,190	5,429	7,152	2,362	16,831	8,629	9,922	6,085
Austria	465	8	171	0	(D)	(D)	66	67	121	3	95	(D)	0	(D)	0	16
Belgium	3,886	1,763	811	(D)	(D)	36	64	63	265	477	178	121	0	151	54	65
Denmark	769	4	117	(D)	1	0	2	(D)	292	(D)	20	0	0	(D)	108	202
Finland	1,141	59	1,046	(D)	(D)	587	142	194	31	1	27	189	(D)	4	22	(D)
France	17,988	3,180	10,883	1,347	2,967	1,450	2,084	3,035	1,703	369	831	-477	173	130	459	736
Germany, Federal Republic of	31,637	1,058	17,750	151	10,543	1,093	2,441	3,522	6,394	1,053	820	587	2,115	1,147	100	612
Ireland	1,274	8	263	58	6	0	77	123	2	5	(D)	(D)	0	23	(D)	(D)
Italy	4,055	(D)	2,672	429	2,026	80	59	78	429	26	683	-703	(D)	163	84	128
Liechtenstein	207	-5	35	1	0	6	(D)	(D)	82	0	0	(D)	0	56	(D)	42
Luxembourg	483	(D)	188	3	0	4	0	181	88	(D)	8	32	0	81	28	65
Netherlands	39,260	18,588	10,023	588	5,991	123	2,301	1,022	1,191	1,182	914	526	3,386	2,794	458	199
Norway	606	9	320	3	96	(D)	28	(D)	47	(D)	(D)	-42	(D)	(D)	83	-5
Spain	618	0	51	(D)	0	0	0	(D)	78	50	348	(D)	(D)	13	4	(*)
Sweden	6,332	(D)	4,746	(D)	825	(D)	3,060	601	1,528	2	(D)	-1,298	709	104	164	115
Switzerland	19,076	-9	11,898	(D)	4,445	(D)	1,026	1,654	1,264	305	60	1,169	3,076	427	601	284
United Kingdom	92,541	7,139	49,844	10,409	7,449	2,965	8,468	20,553	7,578	1,932	2,361	1,808	7,076	3,505	7,691	3,606
Other	270	0	29	(D)	0	0	(D)	11	100	0	120	5	0	14	1	1
Latin America and Other Western Hemisphere	8,627	1,504	1,186	65	253	48	-1	820	469	343	1,420	1,166	(D)	988	1,350	(D)
South and Central America	5,258	1,352	538	3	253	48	-33	267	286	90	1,414	1,031	(D)	399	11	(D)
Brazil	1,593	(D)	(D)	0	0	0	(D)	1	57	0	621	(D)	(D)	10	2	15
Mexico	687	(D)	166	3	0	8	(*)	155	139	(D)	148	21	0	135	-16	55
Panama	591	0	300	0	257	(D)	(D)	(D)	60	(D)	-6	81	(D)	89	22	3
Venezuela	1,677	1,296	(D)	0	-3	0	0	(D)	-4	0	188	(D)	0	68	3	26
Other	709	0	5	0	0	(D)	(D)	0	34	43	463	(D)	1	97	(*)	(D)
Other Western Hemisphere	3,369	151	647	62	0	0	32	553	183	252	6	135	85	589	1,339	-18
Bahamas	229	0	23	0	0	0	(D)	(D)	64	2	0	20	0	124	(*)	-5
Bermuda	1,968	(D)	44	2	0	0	0	43	85	(D)	6	137	(D)	153	(D)	8
Netherlands Antilles	731	(D)	(D)	0	0	0	0	(D)	24	-1	0	-4	0	172	-16	-31
U. K. Islands, Caribbean	443	0	(D)	60	0	0	(D)	19	9	(D)	0	-18	(D)	141	(D)	12
Other	-3	0	0	0	0	0	0	0	1	-1	0	0	0	-1	0	-2
Africa	1,135	129	362	59	0	(D)	(D)	1	345	(*)	-4	(D)	-5	(D)	65	28
South Africa	913	(D)	361	59	0	(D)	(D)	1	(D)	0	-3	(D)	-5	3	(D)	9
Other	222	(D)	1	(*)	0	0	1	0	(D)	(*)	-1	1	0	(D)	(D)	19
Middle East	11,731	(D)	458	0	21	(D)	(D)	(D)	-45	3	1,512	898	(D)	3,091	2,804	351
Israel	711	0	(D)	0	(D)	0	8	0	(D)	5	484	235	0	-1	0	(*)
Kuwait	5,425	(D)	(D)	0	0	(D)	0	4	(D)	0	(D)	1	0	2,063	(D)	(D)
Lebanon	211	(D)	70	0	(D)	0	(D)	(D)	(*)	0	(D)	0	0	58	(D)	(*)
Saudi Arabia	3,747	(D)	(*)	0	(*)	0	0	0	25	0	16	661	(D)	468	29	164
United Arab Emirates	1,454	0	0	0	0	0	0	0	0	-2	(D)	0	0	408	35	(D)
Other	182	0	-3	0	0	0	0	-3	0	-1	84	1	0	95	6	(*)
Asia and Pacific	84,317	2,467	19,884	1,510	2,829	3,398	4,984	7,164	20,856	1,332	6,636	12,947	611	12,150	5,953	1,482
Australia	8,652	(D)	2,405	492	(D)	720	(D)	605	264	(D)	-54	1,495	(D)	329	208	616
Hong Kong	4,072	2	179	(D)	0	0	74	(D)	51	(D)	(D)	(D)	0	373	356	-68
Japan	69,485	-85	16,320	722	2,522	2,549	4,257	6,270	21,190	586	4,965	9,455	360	10,741	5,161	793
Korea, Republic of	-402	(D)	(D)	4	0	(D)	14	(D)	-730	0	112	5	0	6	43	94
Malaysia	9	0	0	0	0	0	0	0	-2	0	-13	6	0	15	(D)	(D)
New Zealand	638	0	431	(D)	(D)	(D)	(D)	(D)	34	(D)	(D)	27	(D)	60	(*)	(D)
Philippines	114	0	(D)	(D)	0	0	0	0	(*)	0	66	0	0	(D)	0	0
Singapore	533	0	-25	9	0	0	(D)	(D)	1	0	21	(D)	0	(D)	2	0
Taiwan	619	0	344	0	334	1	18	-9	20	0	113	(D)	0	87	0	(D)
Other	598	2	93	(D)	0	(D)	-2	29	28	0	199	0	(D)	83	(D)	3
United States	2,582	(D)	63	-2	7	(D)	68	(D)	282	8	0	(D)	(D)	(D)	-28	(D)
Addenda:																
European Communities (12)	192,608	31,888	92,607	13,057	29,612	5,751	15,501	28,687	18,016	5,111	6,841	2,264	13,177	8,004	9,070	5,629
OPEC	12,623	3,984	485	(D)	-3	(D)	0	108	-13	41	1,251	664	(D)	3,071	(D)	380

Table 10.--Foreign Direct Investment Position in the United States on a Historical-Cost Basis, Country of UBO by Industry of Affiliate, 1990

[Millions of dollars; outflows (-)]

	All industries	Petroleum	Manufacturing						Wholesale trade	Retail trade	Banking	Finance, except banking	Insurance	Real estate	Services	Other industries
			Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery	Other manufacturing								
All countries	396,702	42,165	157,431	22,943	45,847	15,523	27,521	45,598	50,750	8,877	18,731	10,129	24,922	34,552	31,557	17,587
Canada	40,580	1,217	18,195	(D)	(D)	1,820	2,951	6,748	2,504	576	1,762	1,206	3,919	5,154	1,167	4,880
Europe	233,653	31,193	115,789	14,838	41,596	10,100	18,333	30,922	21,816	6,602	6,632	340	18,499	8,314	14,852	9,616
Austria	334	-8	163	0	(D)	(D)	87	36	128	(*)	54	-9	0	-11	0	15
Belgium	3,766	1,881	846	(D)	(D)	38	51	50	188	792	(D)	-197	0	135	(D)	45
Denmark	934	4	214	(D)	1	0	97	(D)	273	(D)	40	0	0	(D)	146	228
Finland	1,381	58	1,056	(D)	(D)	408	119	331	27	1	29	429	(D)	4	110	(D)
France	22,054	3,294	14,390	1,632	4,067	3,000	1,543	4,149	2,485	454	1,176	-3,137	239	105	2,049	999
Germany	32,269	198	17,964	115	10,404	1,169	3,304	2,972	7,343	1,355	772	-968	3,528	1,191	136	750
Ireland	1,539	7	443	79	5	0	85	274	(D)	5	(D)	(D)	0	89	(D)	(D)
Italy	4,096	(D)	2,844	357	2,186	(D)	(D)	183	268	23	675	(D)	607	261	681	76
Liechtenstein	220	-5	20	1	0	7	(D)	(D)	73	0	0	1	0	102	-24	53
Luxembourg	545	(D)	213	3	0	4	0	206	(D)	(D)	-7	10	0	99	49	116
Netherlands	39,573	19,166	10,438	783	6,146	498	1,836	1,175	1,688	856	580	128	2,734	3,592	266	124
Norway	770	9	386	(*)	182	(D)	24	(D)	94	(D)	62	-2	(D)	(D)	58	2
Spain	793	0	104	(D)	0	(D)	4	41	101	64	353	(D)	(D)	14	4	2
Sweden	6,591	(D)	6,185	(D)	901	(D)	3,465	1,423	1,004	3	45	(D)	716	204	163	-409
Switzerland	19,605	106	11,285	(D)	4,771	500	1,863	(D)	1,273	301	67	1,175	3,659	409	1,068	262
United Kingdom	98,945	6,198	49,216	9,490	12,150	3,806	5,847	17,922	6,633	2,722	2,010	5,511	7,134	2,121	10,068	7,332
Other	238	0	24	(D)	0	0	(D)	10	119	0	110	8	0	-22	2	-1
Latin America and Other Western Hemisphere	8,882	1,842	786	39	198	68	-18	499	655	(D)	1,560	1,239	105	832	1,510	(D)
South and Central America	5,410	1,151	663	2	(D)	68	(D)	460	323	(D)	1,554	1,126	(D)	405	33	127
Brazil	1,679	(D)	(D)	0	0	0	(D)	(*)	10	0	664	(D)	(D)	12	2	14
Mexico	1,003	(D)	280	2	0	(D)	(*)	(D)	258	7	214	24	0	169	(D)	60
Panama	598	0	300	0	(D)	(D)	(D)	79	44	(D)	-6	98	(D)	109	(D)	2
Venezuela	1,454	1,104	(D)	0	-4	0	0	(D)	-5	0	160	(D)	0	50	3	29
Other	676	0	5	0	0	2	3	0	17	3	521	(D)	(*)	65	(D)	22
Other Western Hemisphere	3,472	691	123	37	(D)	0	(D)	39	332	(D)	6	112	(D)	426	1,477	(D)
Bahamas	187	0	(D)	0	0	0	(D)	(D)	68	(D)	0	-2	0	89	(*)	17
Bermuda	2,365	(D)	-11	(*)	0	0	(*)	-11	227	224	6	143	52	141	1,496	(D)
Netherlands Antilles	656	(D)	(D)	0	(D)	0	0	31	4	0	0	-5	0	93	-31	-71
U. K. Islands, Caribbean	247	0	67	37	0	0	(D)	(D)	(D)	(D)	0	-23	(D)	91	12	-34
Other	17	0	0	0	0	0	0	0	(D)	-2	0	0	0	12	0	(D)
Africa	1,779	(D)	383	64	0	(D)	(D)	1	117	(*)	(D)	(D)	0	100	92	883
South Africa	1,564	77	378	59	0	(D)	(D)	1	(D)	0	-3	(D)	0	3	(D)	(D)
Other	215	(D)	5	4	0	(*)	1	0	(D)	(*)	(D)	1	0	97	(D)	(D)
Middle East	10,735	4,572	68	0	22	3	-5	47	-99	(D)	1,227	678	(D)	3,110	383	306
Israel	706	0	12	0	(D)	0	-7	(D)	-79	(D)	488	(D)	0	-1	0	3
Kuwait	4,943	(D)	7	0	0	3	0	3	(D)	(D)	-7	(D)	0	2,268	184	(D)
Lebanon	221	0	53	0	(D)	0	2	(D)	(D)	0	(D)	0	0	49	(D)	2
Saudi Arabia	3,463	(D)	(*)	0	(*)	0	0	0	17	0	-65	407	(D)	334	54	156
United Arab Emirates	1,223	0	0	0	0	0	0	0	0	-4	(D)	0	0	360	(D)	113
Other	179	0	-3	0	0	0	0	-3	0	-1	78	1	0	101	(D)	(D)
Asia and Pacific	98,121	2,719	22,128	(D)	(D)	3,256	6,155	7,330	25,495	981	7,502	6,506	635	16,810	13,543	1,801
Australia	8,551	(D)	2,851	429	(D)	727	(D)	1,127	398	190	-36	-2,875	(D)	391	4,086	882
Hong Kong	3,343	2	190	(D)	0	0	60	(D)	-17	74	(D)	(D)	0	377	643	-39
Japan	84,430	59	17,947	861	3,264	2,346	5,626	5,850	26,168	660	5,933	8,509	391	15,426	8,486	851
Korea, Republic of	-1,159	(D)	94	8	0	48	10	28	-1,277	(D)	146	(D)	5	25	31	90
Malaysia	72	0	(D)	0	0	(D)	0	0	(D)	0	8	6	0	(D)	(D)	(D)
New Zealand	428	0	166	0	(D)	(D)	(D)	(D)	154	(D)	(D)	-24	(D)	39	8	-8
Philippines	100	0	(D)	(D)	0	0	0	1	(*)	0	61	0	0	(D)	0	0
Singapore	374	0	-81	(D)	0	(D)	(D)	28	(D)	0	27	(D)	0	360	2	4
Taiwan	1,191	(D)	699	(D)	434	(*)	146	(D)	19	0	143	(D)	0	30	(D)	(D)
Other	790	3	166	(D)	0	(D)	-7	76	33	0	189	0	(D)	199	(D)	3
United States	2,952	(D)	82	(D)	7	(D)	(D)	49	263	-1	(D)	(D)	(D)	232	11	(D)
Addenda:																
European Communities (12)	204,548	30,823	96,677	12,518	35,661	8,654	12,801	27,041	19,094	6,290	6,339	270	14,320	7,570	13,476	9,689
OPEC	11,326	5,733	117	(D)	(D)	3	0	(D)	-28	(D)	938	421	(D)	3,055	272	350

Table 11.--Foreign Direct Investment Position in the United States on a Historical-Cost Basis, Country of UBO by Industry of Affiliate, 1991

[Millions of dollars; outflows (-)]

	All industries	Petroleum	Manufacturing						Wholesale trade	Retail trade	Banking	Finance, except banking	Insurance	Real estate	Services	Other industries
			Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery	Other manufacturing								
All countries	407,577	39,955	162,853	23,370	49,133	15,780	27,637	46,934	52,962	6,730	20,655	9,196	33,306	33,747	31,511	16,662
Canada	40,650	697	18,276	(D)	(D)	1,804	2,544	6,537	2,335	-407	1,978	2,714	5,167	4,478	1,010	4,404
Europe	240,596	29,855	119,695	14,836	44,353	10,060	18,572	31,875	22,510	6,022	7,371	-3,080	25,194	8,481	15,023	9,524
Austria	217	(D)	186	0	(D)	(D)	87	57	94	-2	-62	21	0	(D)	2	15
Belgium	3,939	2,008	863	(D)	(D)	31	25	56	196	864	(D)	-228	(D)	113	(D)	12
Denmark	1,005	4	213	(D)	1	0	96	(D)	273	(D)	63	0	0	(D)	163	258
Finland	1,609	13	1,243	(D)	(D)	513	76	371	58	1	84	98	(D)	7	135	(D)
France	27,069	3,396	16,354	1,931	4,154	3,583	1,756	4,930	2,302	489	1,294	-1,647	1,366	79	2,303	1,133
Germany	33,301	600	19,231	-55	11,334	780	4,028	3,144	7,543	1,044	838	-3,826	6,042	1,019	155	654
Ireland	1,380	5	286	77	5	0	33	171	(D)	5	(D)	(D)	0	94	(D)	(D)
Italy	3,121	(D)	2,890	368	(D)	(D)	59	211	518	18	829	(D)	304	301	579	44
Liechtenstein	139	-6	-7	1	0	7	(D)	(D)	73	0	0	-1	0	59	-28	49
Luxembourg	455	(D)	204	3	0	5	0	197	(D)	(D)	11	-43	0	65	60	119
Netherlands	42,136	18,680	10,257	854	5,929	506	2,131	836	1,796	1,229	407	1,478	3,750	3,965	480	96
Norway	764	15	349	(D)	216	(D)	22	43	199	(D)	-4	-2	(D)	(D)	46	-4
Spain	917	0	98	(D)	0	(D)	4	34	100	73	621	(D)	(D)	1	4	-1
Sweden	6,791	(D)	6,032	(D)	1,119	(D)	3,123	1,366	1,008	3	71	(D)	1,000	431	157	-407
Switzerland	18,632	128	10,346	(D)	4,738	395	1,790	(D)	1,333	201	49	1,197	4,026	300	793	260
United Kingdom	98,895	4,914	51,103	9,563	13,778	3,618	5,368	18,776	6,798	2,075	2,291	3,891	8,381	2,088	10,083	7,271
Other	224	0	48	(D)	0	0	(D)	7	113	0	89	8	0	-45	16	-4
Latin America and Other Western Hemisphere	9,979	2,065	1,186	23	(D)	(D)	36	578	651	(D)	1,793	1,328	108	1,020	1,606	(D)
South and Central America	6,033	1,303	953	1	233	(D)	(D)	500	300	(D)	(D)	1,188	(D)	308	13	119
Brazil	1,827	(D)	(D)	0	0	0	(D)	(*)	39	0	741	(D)	4	12	2	13
Mexico	1,030	(D)	283	1	0	(D)	(*)	(D)	273	7	282	25	0	141	(D)	56
Panama	889	0	575	0	238	(D)	(D)	87	27	(D)	-5	108	(D)	114	(D)	(*)
Venezuela	1,646	1,256	(D)	0	-5	0	0	(D)	-7	0	202	6	0	32	(D)	30
Other	641	0	6	0	0	2	4	0	-31	34	(D)	(D)	(*)	9	(*)	20
Other Western Hemisphere	3,946	762	234	23	(D)	0	(D)	78	351	255	(D)	140	(D)	712	1,593	(D)
Bahamas	290	0	(D)	0	0	0	(D)	(D)	74	(D)	0	1	0	121	(*)	19
Bermuda	2,582	68	-18	-1	0	0	4	-21	249	223	(D)	142	37	228	1,636	(D)
Netherlands Antilles	658	694	115	0	(D)	0	0	(D)	-39	0	0	-6	0	57	-43	-119
U. K. Islands, Caribbean	403	1	(D)	23	0	0	(D)	27	66	(D)	0	3	(D)	296	(*)	-83
Other	13	0	0	0	0	0	0	0	1	-3	0	0	0	12	0	3
Africa	1,551	(D)	442	74	0	(D)	(D)	1	133	(*)	(D)	-8	0	79	108	698
South Africa	1,374	(D)	437	69	0	(D)	(D)	1	(D)	0	-3	-9	0	3	(D)	(D)
Other	176	(D)	4	5	0	-2	1	0	(D)	(*)	(D)	1	0	76	(D)	(D)
Middle East	9,967	3,815	107	0	28	3	34	43	13	(D)	1,215	743	(D)	2,957	341	292
Israel	1,173	0	57	0	(D)	0	31	(D)	28	(D)	807	(D)	0	-2	0	-13
Kuwait	4,395	(D)	6	0	0	3	0	3	(D)	(D)	9	(D)	0	2,370	96	(D)
Lebanon	261	0	48	0	(D)	0	3	(D)	(D)	0	8	0	0	40	161	(D)
Saudi Arabia	3,034	(D)	(*)	0	(*)	0	0	0	27	0	-100	457	(D)	96	42	149
United Arab Emirates	958	0	0	0	0	0	0	0	0	(D)	(D)	0	0	366	36	132
Other	145	0	-3	0	0	0	0	-3	0	-2	(D)	5	0	87	6	(D)
Asia and Pacific	101,756	2,910	23,142	(D)	(D)	3,376	6,340	7,853	27,078	433	8,269	7,375	831	16,531	13,444	1,744
Australia	6,929	(D)	2,457	344	(D)	692	(D)	878	430	(D)	-86	-2,568	(D)	377	3,577	795
Hong Kong	3,515	2	112	(D)	0	0	13	(D)	34	70	(D)	1,266	0	369	768	(D)
Japan	88,934	130	19,334	835	3,437	2,488	5,932	6,643	27,026	1,128	6,800	9,047	573	15,280	8,750	865
Korea, Republic of	-653	(D)	139	9	0	62	12	57	-710	(D)	174	(D)	5	29	46	92
Malaysia	93	0	(D)	0	0	(D)	0	0	(D)	0	2	6	0	(D)	27	(D)
New Zealand	348	0	53	(*)	(D)	(D)	(D)	(D)	163	(D)	(D)	-26	(D)	43	8	10
Philippines	103	0	(D)	(D)	0	0	0	1	-3	0	53	0	0	(D)	0	0
Singapore	204	0	-167	(D)	0	(D)	(D)	29	(D)	0	33	(D)	0	273	4	4
Taiwan	1,536	(D)	1,015	(D)	543	-1	300	(D)	4	0	160	(D)	0	27	(D)	(D)
Other	746	3	97	62	0	14	-11	31	91	0	194	0	(D)	165	(D)	3
United States	3,079	(D)	6	(D)	7	1	(D)	46	242	-2	(D)	124	(D)	201	-22	(D)
Addenda:																
European Communities (12)	212,196	29,497	101,504	12,813	38,130	8,644	13,505	28,412	19,631	5,812	7,171	-2,664	20,056	7,666	13,915	9,608
OPEC	10,256	5,123	115	(D)	-5	3	0	(D)	-27	(D)	683	475	(D)	2,863	178	353

Table 12.--Foreign Direct Investment Position in the United States on a Historical-Cost Basis, Country of FPG by Industry of Affiliate, 1988

[Millions of dollars]

	All industries	Petroleum	Manufacturing						Wholesale trade	Retail trade	Banking	Finance, except banking	Insurance	Real estate	Services	Other industries
			Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery	Other manufacturing								
All countries	314754	36006	122582	16458	30926	10873	22452	41874	43725	9865	16906	8113	18991	25867	19048	13651
Canada	26566	1181	9730	1031	491	3503	1839	2866	2118	982	1687	1512	2570	3468	333	2985
Europe	208942	33499	95641	14683	26971	5242	17363	31381	20574	6530	8440	3843	14838	9239	11288	5050
Austria	392	0	222	0	(D)	(D)	181	5	121	3	(D)	(*)	(*)	1	(D)	16
Belgium	3471	(D)	810	(D)	(D)	46	15	233	452	234	10	(D)	(*)	26	1	64
Denmark	588	(D)	100	(D)	(D)	0	9	71	250	(D)	11	0	0	0	93	116
Finland	452	(D)	354	(D)	(D)	(D)	47	12	(D)	1	15	(D)	19	2	10	0
France	13233	(D)	7886	879	2416	645	1001	2944	977	118	666	29	126	106	225	(D)
Germany, Federal Republic of	25250	345	13980	638	7127	862	2759	2593	5222	1084	602	477	1604	1073	141	723
Ireland	725	9	402	(D)	7	0	53	(D)	(D)	0	(D)	0	0	(*)	(D)	3
Italy	752	(D)	540	26	366	2	58	89	277	2	608	(D)	(D)	20	2	(D)
Liechtenstein	181	-5	34	1	0	(D)	1	(D)	35	0	0	4	0	70	-14	55
Luxembourg	-131	(D)	70	3	-3	24	(*)	46	113	3	11	-439	0	35	(D)	32
Netherlands	48128	9045	17843	6255	4805	618	3080	3084	2760	2374	2722	2701	3847	3478	2251	1108
Norway	220	(D)	252	-4	(D)	(D)	37	2	30	(D)	(D)	-6	(D)	6	-29	-13
Spain	511	0	22	9	-2	0	1	15	124	41	316	0	(D)	(D)	2	(*)
Sweden	4713	(D)	3777	1	451	296	2397	633	1433	(D)	(D)	(D)	233	(D)	172	30
Switzerland	14372	7	7613	(D)	3039	(D)	1078	803	2133	162	97	898	2511	181	586	183
United Kingdom	95698	19522	41708	4356	8224	1977	6646	20506	6461	2470	2931	1987	6338	4203	7790	2289
Other	388	(D)	27	(D)	(D)	(*)	1	11	116	0	128	(D)	0	19	(*)	-1
Latin America and Other Western Hemisphere	11243	711	3774	85	1830	15	-68	1912	1628	1486	1305	-3008	(D)	3096	(D)	399
South and Central America	4331	(D)	133	-2	(D)	(D)	-123	11	171	60	1183	(D)	(D)	388	(D)	149
Brazil	286	(D)	-61	-1	-8	(*)	-55	2	28	(*)	302	0	(D)	6	0	-5
Mexico	218	0	-44	0	(D)	(D)	-31	-4	83	5	(D)	8	0	57	(D)	53
Panama	2878	7	298	-1	(D)	(D)	-7	18	30	55	(D)	(D)	(D)	253	(D)	82
Venezuela	540	(D)	-33	0	-10	(*)	-21	-2	(D)	(*)	103	1	0	29	0	13
Other	409	(D)	-28	(*)	-17	1	-9	-3	(D)	(*)	358	-5	3	44	0	5
Other Western Hemisphere	6911	(D)	3641	87	(D)	(D)	55	1901	1457	1426	122	(D)	-82	2708	754	250
Bahamas	(D)	(D)	-29	0	0	(D)	(D)	3	78	0	0	(D)	0	9	8	22
Bermuda	1067	-7	292	(D)	6	(D)	1	(D)	612	121	(D)	(D)	-92	134	58	8
Netherlands Antilles	8935	136	3251	(D)	(D)	(D)	28	1509	681	637	102	1264	4	2034	684	141
U. K. Islands, Caribbean	-3867	(D)	127	44	-1	(*)	(D)	(D)	86	(D)	(D)	-4839	3	477	2	75
Other	(D)	0	(*)	0	0	0	(*)	(*)	(*)	(D)	0	0	2	55	2	4
Africa	441	(D)	146	(*)	-8	(D)	2	(D)	3	1	-1	(*)	0	79	(D)	120
South Africa	37	0	(D)	0	-7	(D)	2	(*)	(D)	0	-3	0	0	0	0	-3
Other	404	(D)	(D)	(*)	-1	-2	0	(D)	(D)	1	2	(*)	0	79	(D)	124
Middle East	6570	(D)	9	0	4	(D)	11	(D)	29	(D)	547	258	0	865	(D)	133
Israel	587	0	7	0	3	0	4	0	-3	(D)	408	(D)	0	(*)	-1	-2
Kuwait	3954	(D)	-1	0	0	0	0	-1	(D)	(D)	17	0	0	808	(D)	(D)
Lebanon	-7	0	5	0	0	0	(D)	(D)	(*)	(*)	0	0	0	-12	0	0
Saudi Arabia	1826	(D)	(D)	0	1	0	(D)	(D)	15	0	25	(D)	0	56	(D)	-1
United Arab Emirates	111	-2	-2	0	0	0	0	-2	0	0	34	0	0	5	(D)	(D)
Other	100	(D)	(D)	0	0	(D)	0	0	(D)	(*)	63	(D)	0	8	3	2
Asia and Pacific	60992	207	13281	659	1637	2097	3306	5582	19373	(D)	4928	5507	(D)	9121	2469	4963
Australia	7171	263	1498	98	-42	676	130	636	365	(D)	11	-93	(D)	285	143	(D)
Hong Kong	895	4	238	(D)	(D)	(D)	107	34	268	100	155	(D)	1	147	15	(D)
Japan	51126	-64	11065	393	1677	1293	2930	4772	18462	411	4367	5666	266	8190	2314	449
Korea, Republic of	505	2	35	1	0	(*)	25	10	285	0	74	5	0	6	3	94
Malaysia	42	0	43	-1	0	0	43	0	(*)	0	(D)	0	0	1	0	(D)
New Zealand	154	(*)	(D)	(D)	(D)	(*)	(*)	4	13	0	(D)	(*)	48	81	(*)	(D)
Philippines	73	-1	(D)	(D)	0	0	0	(*)	-1	0	52	0	(D)	-1	0	(*)
Singapore	510	4	175	0	(D)	4	17	(D)	-9	(*)	15	(D)	0	383	(D)	1
Taiwan	329	(*)	139	0	-4	1	(D)	(D)	63	0	96	(D)	0	8	(D)	0
Other	186	-1	87	48	-2	(D)	(D)	16	-73	0	148	0	(D)	21	(D)	1
Addenda:																
European Communities (12)	188342	33393	83359	12329	23350	4175	13622	29884	16693	6339	8182	4124	11978	8942	10552	4780
OPEC	6487	748	-14	(D)	-9	(D)	-20	-7	27	(D)	218	(D)	3	905	(D)	145

Table 13.--Foreign Direct Investment Position in the United States on a Historical-Cost Basis, Country of FPG by Industry of Affiliate, 1989

[Millions of dollars]

	All industries	Petroleum	Manufacturing						Wholesale trade	Retail trade	Banking	Finance, except banking	Insurance	Real estate	Services	Other industries
			Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery	Other manufacturing								
All countries	368924	48345	150949	23585	38408	15110	27839	46088	45456	8549	18431	18657	22509	30386	20614	13027
Canada	38370	1141	9766	868	460	2124	1762	4552	2236	-271	1716	2878	3562	4884	584	4675
Europe	239198	32649	118129	21505	33435	9289	21233	32667	28485	6207	9281	6997	16879	10848	12172	6433
Austria	386	0	93	8	(D)	(D)	37	8	119	2	95	(D)	(*)	1	8	(D)
Belgium	3799	(D)	943	(D)	558	22	(D)	242	564	435	23	(D)	(*)	67	(D)	48
Denmark	656	(D)	103	(D)	(D)	1	7	71	256	(D)	28	0	0	8	122	135
Finland	1297	58	1002	(D)	(D)	596	183	179	27	1	27	(D)	22	1	25	(D)
France	15365	(D)	10878	1291	3883	(D)	(D)	2951	877	118	871	-558	166	95	359	(D)
Germany, Federal Republic of	28386	1183	15560	678	8386	1100	2466	2937	5654	1029	874	405	1860	1182	151	567
Ireland	1416	8	349	55	4	0	223	66	(D)	5	(D)	(D)	0	20	(D)	(*)
Italy	1436	(D)	607	19	338	69	95	93	248	4	683	(D)	(D)	21	2	102
Liechtenstein	177	-5	45	1	0	6	(D)	(D)	35	0	0	-1	0	70	-28	53
Luxembourg	407	(D)	15	3	-3	-31	(D)	(D)	78	4	8	106	0	90	(D)	29
Netherlands	56734	10861	23898	6769	7511	944	4592	3275	3555	2386	3131	3207	3879	3744	2808	882
Norway	576	(*)	274	3	(D)	(D)	38	2	58	(D)	(D)	-2	(D)	-3	77	-8
Spain	601	-4	56	8	25	2	-2	23	77	58	350	(D)	(D)	-2	1	(*)
Sweden	5435	(D)	3919	(*)	745	280	2284	689	1465	(D)	(D)	(D)	673	98	158	83
Switzerland	18746	33	11798	(D)	3832	(D)	2094	1555	1374	258	57	1411	3824	143	428	228
United Kingdom	183458	16666	50166	18471	8915	2524	7773	20483	5854	1874	2337	3389	7864	4487	7921	3788
Other	316	(D)	32	(D)	-1	0	(D)	7	(D)	8	120	1	8	25	1	(D)
Latin America and Other Western Hemisphere	16218	1264	4324	55	1934	10	54	2271	1468	1836	1368	651	(D)	2650	(D)	332
South and Central America	5819	1066	541	-5	130	(D)	-75	(D)	211	109	1226	863	(D)	272	-9	(D)
Brazil	428	(D)	-61	(*)	-19	1	-45	2	86	8	380	0	(D)	6	8	-16
Mexico	358	4	(D)	-1	-9	-7	-8	(D)	96	6	(D)	9	0	54	-33	51
Panama	3392	5	566	-5	(D)	(D)	-17	132	11	103	(D)	(D)	(D)	143	23	80
Venezuela	1163	1036	-14	8	-3	0	-9	-1	-9	8	108	1	0	28	8	13
Other	486	(D)	(D)	8	(D)	3	3	(D)	27	(*)	373	(D)	1	42	(*)	(D)
Other Western Hemisphere	18399	198	3782	68	1804	(D)	129	(D)	1249	1727	142	-211	-9	2378	(D)	(D)
Bahamas	-52	(D)	(D)	8	0	(D)	4	(D)	90	0	8	9	(*)	15	-3	18
Bermuda	1012	4	415	2	(D)	(D)	(*)	(D)	553	(D)	(D)	-97	-107	98	64	(D)
Netherlands Antilles	8733	115	3129	-28	(D)	(D)	58	1387	595	589	115	1348	63	1736	981	151
U.K. Islands, Caribbean	-215	(D)	445	87	8	(*)	78	289	15	175	(D)	-1462	3	419	98	42
Other	922	3	(D)	0	-1	8	4	(D)	-3	(D)	0	-1	33	118	(D)	2
Africa	585	(D)	(D)	4	168	(D)	2	-1	-32	1	-4	(*)	(*)	66	28	119
South Africa	26	0	(D)	2	(D)	13	-1	(*)	(D)	0	-3	8	8	0	8	-6
Other	480	(D)	(D)	2	(D)	(D)	2	(*)	(D)	1	-1	(*)	(*)	66	28	125
Middle East	7588	(D)	(D)	0	7	(D)	12	-2	-21	4	571	278	8	939	(D)	114
Israel	638	0	12	8	(D)	8	(D)	0	-37	5	434	(D)	8	-1	8	(D)
Kuwait	4288	(D)	(D)	0	8	(D)	8	-1	2	8	(D)	0	8	986	(D)	(D)
Lebanon	-9	8	(D)	0	8	8	(D)	0	(*)	(*)	0	8	8	(D)	8	8
Saudi Arabia	2455	(D)	1	0	(D)	0	(D)	0	14	8	(D)	(D)	0	48	(D)	-2
United Arab Emirates	112	-2	-1	0	0	0	8	-1	0	8	31	0	0	5	(D)	(D)
Other	119	(D)	(*)	0	0	(*)	8	0	0	-1	76	1	0	(D)	4	(D)
Asia and Pacific	75853	(D)	18175	1153	2411	3314	4776	6521	21409	771	5580	8660	(D)	11888	4250	1353
Australia	4962	2698	1332	269	-124	656	218	322	567	(D)	-54	-774	(D)	296	154	(D)
Hong Kong	1124	(D)	532	(D)	(D)	(D)	350	44	248	98	144	52	-7	148	25	(D)
Japan	67268	-122	15601	678	2350	2527	3943	6101	21111	571	4963	9291	368	18665	4843	779
Korea, Republic of	-307	(D)	52	(D)	0	(D)	13	22	-624	8	112	(D)	0	6	(D)	94
Malaysia	29	(*)	41	(*)	8	8	41	0	-1	0	-13	0	0	2	8	(*)
New Zealand	166	(*)	-44	(D)	(D)	8	3	-2	9	0	(D)	32	76	91	(*)	(D)
Philippines	82	8	(D)	(D)	0	8	8	(*)	6	0	52	0	(D)	-1	8	(*)
Singapore	934	-4	401	9	(D)	(D)	191	13	3	0	(D)	17	8	(D)	2	-1
Taiwan	476	(*)	187	0	158	1	19	9	59	0	113	(D)	8	(D)	-2	8
Other	318	(*)	(D)	38	0	(D)	5	10	39	(D)	187	(*)	(D)	26	(D)	1
Addenda:																
European Communities (12)	212361	32298	180963	19401	28710	5996	16671	38185	17249	5922	8974	6634	13037	9707	11518	6066
OPEC	8867	3678	(D)	1	-3	(D)	-9	-6	4	8	239	(D)	1	986	(D)	138

Table 14.--Foreign Direct Investment Position in the United States on a Historical-Cost Basis, Country of FPG by Industry of Affiliate, 1990

[Millions of dollars]

	All industries	Petroleum	Manufacturing						Wholesale trade	Retail trade	Banking	Finance, except banking	Insurance	Real estate	Services	Other industries
			Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery	Other manufacturing								
All countries	396702	42165	157431	22943	45847	15523	27521	45590	50750	8077	10731	10129	24922	34552	31557	17587
Canada	30037	1394	9652	986	551	1071	1807	4430	2280	-979	1762	1987	4030	4687	579	4636
Europe	250973	33600	121292	20334	39607	10310	19623	31417	20806	6727	0241	2619	10540	10602	17559	10978
Austria	623	0	132	0	(D)	(D)	76	13	141	-1	54	(D)	(*)	1	0	(D)
Belgium	3866	(D)	1366	(D)	990	18	(D)	294	347	623	-93	(D)	(*)	63	3	27
Denmark	019	(D)	203	(D)	(D)	0	101	74	240	(D)	40	0	0	0	161	145
Finland	1513	54	1000	(D)	(D)	(D)	09	312	37	1	(D)	(D)	21	(*)	28	(D)
France	18665	(D)	13669	1496	4060	(D)	(D)	3070	851	196	1218	-3223	244	141	1983	(D)
Germany	28309	151	15695	126	8306	1100	3325	2758	6404	1331	772	-1125	2037	1329	196	719
Ireland	1200	7	215	78	7	0	-54	104	110	5	(D)	(D)	0	(D)	(D)	(*)
Italy	1869	69	760	17	504	73	39	135	357	2	675	(D)	(D)	21	-22	53
Liechtenstein	181	-5	49	1	0	7	2	39	58	0	0	-21	0	80	-25	45
Luxembourg	2118	(D)	9	3	-3	4	-0	14	55	1	-7	(D)	0	143	(D)	404
Netherlands	63930	12606	24717	7439	8133	1437	3950	3757	4674	1682	2361	2057	3717	4832	5732	1480
Norway	773	0	374	(*)	(D)	(D)	26	-9	104	(D)	62	-2	(D)	(D)	70	2
Spain	790	(*)	123	9	(D)	(D)	(*)	20	101	64	354	(D)	(D)	4	(*)	-3
Sweden	5467	213	5230	0	603	275	2872	1488	894	(D)	(D)	(D)	691	172	152	-440
Switzerland	17745	124	10393	(D)	3273	(D)	2838	1396	1220	223	59	1137	3600	206	572	201
United Kingdom	102790	15841	47304	8679	13420	3335	4816	17053	5112	2557	1983	3739	6855	3504	8430	7465
Other	299	(D)	29	8	-1	0	13	10	83	0	110	-3	0	21	2	(D)
Latin America and Other Western Hemisphere	19616	2360	5423	239	1822	104	-11	3270	1987	1049	1567	(D)	(D)	2226	4244	(D)
South and Central America	6020	1010	573	-10	(D)	(D)	-104	363	82	64	1344	913	(D)	256	-28	(D)
Brazil	370	(D)	-65	(*)	-14	1	-50	-2	-4	0	415	0	(D)	6	-2	-21
Mexico	550	3	211	-2	-14	-4	(D)	(D)	88	6	153	12	0	57	-37	57
Panama	4099	570	472	-8	(D)	(D)	-39	118	-16	59	(D)	052	(D)	132	11	81
Venezuela	489	387	-5	0	-6	0	-3	4	-12	0	(D)	1	0	26	0	(D)
Other	503	(D)	-41	(*)	-41	2	(D)	(D)	26	(*)	426	48	(*)	36	0	(D)
Other Western Hemisphere	13596	1359	4050	249	(D)	(D)	93	2907	1904	1784	222	(D)	(D)	1970	4272	206
Bahamas	1508	(D)	(D)	0	0	(D)	(D)	-2	(D)	0	0	(D)	0	16	(D)	21
Bermuda	1517	15	294	(*)	-2	(D)	(*)	(D)	1308	(D)	(D)	-196	-127	53	77	-10
Netherlands Antilles	12504	(D)	4450	169	(D)	(D)	25	2505	197	573	133	291	(D)	1345	4004	158
U.K. Islands, Caribbean	-2935	(D)	209	00	(*)	18	44	67	272	353	(D)	-4567	3	499	161	20
Other	923	(D)	(D)	0	(*)	0	(D)	(D)	(D)	(D)	0	0	(D)	57	(D)	9
Africa	512	(D)	(D)	2	(D)	(D)	4	-1	-22	1	-9	(D)	0	-12	17	172
South Africa	10	0	-12	0	(D)	(D)	-1	(*)	(D)	0	-3	(*)	0	0	0	(D)
Other	502	(D)	(D)	2	(D)	(D)	5	-1	(D)	1	-6	(D)	0	-12	17	(D)
Middle East	4423	(D)	(D)	0	(D)	(D)	-1	-3	-58	420	552	(D)	0	939	207	42
Israel	626	0	-2	0	(D)	0	(D)	0	-72	27	443	(D)	0	-1	0	(D)
Kuwait	1831	(D)	(D)	0	0	(D)	0	-2	1	395	1	2	0	945	(D)	(D)
Lebanon	-10	0	(D)	0	0	0	(D)	0	(*)	(D)	0	0	0	-26	0	0
Saudi Arabia	1803	(D)	(D)	0	(D)	0	(*)	0	14	0	2	(*)	0	19	(D)	-2
United Arab Emirates	97	0	-1	0	0	0	0	-1	0	0	34	0	0	3	(D)	(D)
Other	85	(D)	(*)	0	0	(*)	0	0	0	(D)	71	1	0	-2	4	-3
Asia and Pacific	91141	2630	20811	1382	3606	3247	6090	6476	25750	058	6618	7313	(D)	16110	0951	(D)
Australia	6539	2612	2106	250	-24	755	483	641	525	(D)	-37	-1231	(D)	401	1361	(D)
Hong Kong	1199	(D)	339	(D)	(D)	(D)	164	10	302	08	178	23	-1	171	(D)	-21
Japan	01775	11	17153	793	3101	2326	5203	5730	25750	639	5931	0605	388	15084	7393	020
Korea, Republic of	-1000	(D)	91	8	0	42	5	35	-1092	(D)	146	(D)	5	14	(D)	07
Malaysia	56	(*)	32	2	-1	0	32	-1	14	0	8	(*)	0	2	0	(*)
New Zealand	138	(D)	-7	(D)	-3	0	1	(D)	48	0	(D)	-20	78	20	-1	20
Philippines	74	-1	11	(D)	(*)	0	1	(D)	0	0	42	0	(D)	-1	0	(D)
Singapore	1147	-5	495	15	(D)	(D)	49	4	46	0	(D)	203	0	(D)	2	4
Taiwan	824	(D)	442	(D)	161	(*)	140	(D)	93	0	143	(D)	0	25	72	0
Other	309	-2	149	66	(D)	(D)	20	51	55	0	172	(*)	(D)	(D)	-11	(*)
Addenda:																
European Communities (12)	224447	33153	104068	17917	35447	8820	13700	20160	18260	6480	7955	2417	14076	10134	16751	11151
OPEC	4246	2420	(D)	-1	-0	(D)	-2	(*)	1	395	174	(D)	(*)	999	193	83

Table 15.--Foreign Direct Investment Position in the United States on a Historical-Cost Basis, Country of FPG by Industry of Affiliate, 1991

[Millions of dollars]

	All industries	Petroleum	Manufacturing						Wholesale trade	Retail trade	Banking	Finance, except banking	Insurance	Real estate	Services	Other industries
			Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery	Other manufacturing								
All countries	407577	39955	162853	23370	49133	15780	27637	46934	52962	6730	20655	9196	33306	33747	31511	16662
																81
Canada	30002	913	9662	948	655	1814	1927	4318	1962	-1691	1978	2462	5294	4086	939	4398
																(D)
Europe	258127	31989	126809	21065	43820	10468	19417	32040	21527	4347	8579	-1357	25192	10653	19963	10425
Austria	472	(*)	139	(*)	(D)	(D)	78	19	117	-3	-62	(D)	(*)	1	2	(D)
Belgium	3653	(D)	1225	57	952	11	3	203	151	702	(D)	-80	(D)	60	11	-2
Denmark	1219	(D)	560	(D)	(D)	(D)	100	68	232	(D)	63	0	0	0	179	161
Finland	1547	13	920	(D)	(D)	520	22	123	72	1	84	(D)	(D)	-1	29	(D)
France	22740	2980	14821	1855	4195	2498	1538	4736	753	189	1286	-2009	1370	127	2236	986
																9
Germany	28171	559	16546	-45	9102	789	3995	2705	6601	1012	838	-4193	4774	1174	213	647
Ireland	1292	5	217	119	9	0	21	68	129	5	(D)	(D)	0	(D)	(D)	(*)
Italy	2859	-88	2428	17	(D)	(D)	38	193	466	-6	829	(D)	(D)	20	-76	28
Liechtenstein	98	(D)	39	(D)	0	7	-1	(D)	52	0	1	(D)	0	26	-29	42
Luxembourg	974	43	38	2	0	19	-3	19	74	(D)	-2	175	0	100	(D)	(D)
Netherlands	63848	12254	24137	8175	7071	2081	4092	2719	5276	256	1933	3186	5171	5090	5502	1041
																(D)
Norway	556	(D)	339	(D)	(D)	(D)	24	10	194	(D)	-4	-2	158	(D)	66	-4
Spain	1161	0	108	9	(D)	(D)	-3	-6	94	73	621	(D)	(D)	4	-3	-6
Sweden	5597	(D)	5343	(*)	909	298	2714	1423	632	6	71	(D)	972	341	151	-417
Switzerland	17594	138	9781	1990	3225	549	2668	1349	1338	106	40	1564	3956	111	380	181
United Kingdom	106064	14238	50120	8691	15844	3110	4104	18371	5275	1982	2269	2445	7826	3482	11033	7394
Other	282	(D)	47	(D)	-2	0	27	(D)	72	0	89	-8	0	20	3	(D)
																(D)
Latin America and Other Western Hemisphere	17673	2385	3664	241	318	95	-72	3081	2026	2242	1813	99	1945	1991	1393	115
																-21
South and Central America	6466	1030	527	-7	99	192	-142	386	139	34	1581	903	(D)	210	-30	(D)
Brazil	488	(D)	-75	-3	-20	(*)	-51	-3	26	0	495	0	(D)	6	0	-11
Mexico	608	2	225	(*)	-15	-3	-17	261	75	6	223	12	0	54	-41	53
Panama	4367	(D)	407	-4	(D)	193	-66	(D)	32	27	276	904	(D)	96	10	75
Venezuela	544	393	-13	0	-10	0	-6	3	-8	0	125	4	0	23	(D)	(D)
Other	458	(D)	-17	0	(D)	1	-3	(D)	13	(*)	462	-16	-1	31	(D)	5
																0
Other Western Hemisphere	11208	1356	3137	249	220	-97	70	2695	1887	2208	231	-805	(D)	1781	1422	(D)
Bahamas	1195	(D)	12	(D)	0	(D)	(D)	-3	(D)	0	0	(D)	0	54	(D)	15
Bermuda	1323	-9	110	(D)	(D)	(D)	(*)	(D)	1258	(D)	(D)	-199	-117	146	133	-34
Netherlands Antilles	7948	1390	2746	(D)	(D)	4	21	2307	152	1173	144	285	(D)	820	1074	(D)
U.K. Islands, Caribbean	-466	(D)	271	65	(*)	-5	44	167	327	251	(D)	-2228	2	719	179	-98
Other	1208	(D)	-3	0	0	0	(D)	(D)	(D)	(D)	0	(D)	49	42	(D)	7
Africa	309	(D)	(D)	3	(D)	1	5	-1	-107	(D)	-9	8	0	-50	(D)	192
South Africa	-10	0	(*)	0	-2	3	(*)	(*)	(D)	0	-3	0	0	0	0	(D)
Other	319	(D)	(D)	3	(D)	-2	5	-1	(D)	(D)	-6	8	0	-50	(D)	(D)
Middle East	4798	(D)	(D)	0	(D)	(*)	40	-2	46	(D)	839	275	0	1199	(D)	6
Israel	1085	0	40	0	(D)	0	(D)	2	29	(D)	763	(D)	0	-2	0	(D)
Kuwait	2000	(D)	-3	0	0	0	0	-3	1	(D)	16	3	0	1230	(D)	(D)
Lebanon	-27	0	(D)	0	0	0	(D)	0	(*)	(D)	0	0	0	-34	0	0
Saudi Arabia	1588	(D)	(D)	0	(*)	0	(D)	0	16	0	-28	(*)	0	11	(D)	-3
United Arab Emirates	97	-1	-1	0	-1	0	0	-1	0	0	35	0	0	2	(D)	(D)
Other	55	7	(*)	0	0	(*)	0	0	0	(D)	53	(D)	0	-8	5	-6
Asia and Pacific	96668	2798	22412	1113	4078	3402	6321	7498	27509	1415	7455	7709	875	15867	9102	1526
Australia	6626	2696	2055	-18	6	714	470	883	559	(D)	-90	(D)	(D)	392	1287	571
Hong Kong	1272	-8	209	(D)	-53	(D)	67	8	266	188	154	152	-2	161	156	-3
Japan	86658	113	18657	769	3446	2504	5396	6542	26935	1102	6797	9120	572	14948	7574	839
Korea, Republic of	-542	14	109	9	(*)	43	9	49	-546	(D)	174	(D)	5	18	(D)	89
Malaysia	85	(D)	28	2	-1	0	28	-1	61	0	2	(*)	0	2	(D)	0
New Zealand	131	(*)	-8	(*)	-7	5	-1	-6	51	0	(D)	-30	75	33	(D)	24
Philippines	50	0	10	(D)	(*)	0	1	(D)	-11	0	36	0	(D)	-1	0	(D)
Singapore	914	-3	543	(D)	(D)	8	83	8	17	0	(D)	24	0	292	4	(D)
Taiwan	1115	(D)	729	(D)	261	(*)	264	(D)	83	0	160	(D)	0	23	(D)	1
Other	360	-3	81	64	(D)	(D)	4	-5	93	0	184	0	(D)	1	-9	(D)
Addenda:																
European Communities (12)	232007	31733	110198	18938	39329	8971	13885	29076	19052	4229	8387	-1434	19707	10169	19361	10605
OPEC	4275	2228	-22	-3	-11	(*)	-5	-3	5	(D)	219	(D)	(*)	1271	109	68

Table 16.--Outlays for Acquisitions and Estalishments by Industry of U.S. Business Enterprise by Type of Investment, 1980-86

[Millions of dollars]

	1980			1981			1982			1983			1984			1985			1986		
	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments
All industries	12172	8974	3198	23219	18151	5067	10817	6563	4254	8091	4848	3244	15197	11836	3361	23106	20083	3023	39177	31450	7728
Mining	907	(D)	(D)	1861	(D)	(D)	342	(D)	(D)	37	(D)	(D)	844	(D)	(D)	294	227	67	939	931	7
Petroleum	768	705	63	1822	1668	154	819	554	265	394	225	169	3263	3074	190	2970	2961	9	1035	962	73
Manufacturing	3629	3467	162	8074	7808	266	2379	2141	239	3113	2980	133	3106	2699	406	12140	11742	398	16772	16082	690
Food and kindred products	554	554	0	318	(D)	(D)	376	(D)	(D)	691	688	4	340	(D)	(D)	3556	3548	7	1007	997	10
Chemicals and allied products	253	242	10	2957	2931	27	363	(D)	(D)	653	647	6	378	(D)	(D)	3280	3270	10	7063	7053	11
Industrial chemicals	176	(D)	(D)	2572	2569	3	114	(D)	(D)	325	325	0	27	(D)	(D)	366	366	0	4274	4269	5
Drugs	20	18	2	86	82	3	(D)	(D)	0	0	0	0	(D)	(D)	(D)	(D)	(D)	10	942	940	2
Soap, cleaners, & toiletries	3	n.a.	n.a.	(D)	n.a.	n.a.	(D)	n.a.	n.a.	(D)	(D)	0	(D)	(D)	0	0	0	0	140	140	0
Agricultural chemicals	0	n.a.	n.a.	(D)	n.a.	n.a.	1	n.a.	n.a.	(D)	(D)	0	17	17	0	(D)	(D)	0	653	653	0
Other	53	n.a.	n.a.	212	n.a.	n.a.	26	n.a.	n.a.	170	164	6	(D)	(D)	0	2723	2723	0	1055	1051	4
Primary and fabricated metals	303	(D)	(D)	2499	(D)	(D)	104	(D)	(D)	177	175	2	558	(D)	(D)	1015	1005	10	776	658	118
Primary metal industries	189	(D)	(D)	2319	(D)	(D)	82	(D)	(D)	(D)	(D)	0	(D)	(D)	(D)	898	896	2	323	(D)	(D)
Fabricated metal products	114	(D)	(D)	180	167	13	22	17	5	(D)	(D)	2	(D)	80	(D)	117	109	8	453	(D)	(D)
Machinery	818	763	55	715	681	33	979	946	44	470	445	25	535	519	17	1556	1420	137	2426	2374	52
Machinery, except electrical	480	431	48	411	386	25	803	761	42	98	96	2	375	365	10	679	677	2	548	(D)	(D)
Electric & electronic equip.	339	332	7	303	295	8	177	175	2	373	349	24	160	154	6	878	743	135	1877	(D)	(D)
Other manufacturing	1701	n.a.	n.a.	1585	n.a.	n.a.	557	n.a.	n.a.	1121	1026	96	1295	(D)	(D)	2733	2499	234	5500	5000	500
Textile products and apparel	221	n.a.	n.a.	32	n.a.	n.a.	23	n.a.	n.a.	49	49	0	(D)	(D)	0	52	(D)	(D)	(D)	(D)	0
Lumber and furniture	32	n.a.	n.a.	(D)	n.a.	n.a.	(D)	n.a.	n.a.	(D)	(D)	0	(D)	(D)	2	(D)	(D)	0	(D)	(D)	0
Paper and allied products	(D)	n.a.	n.a.	(D)	n.a.	n.a.	173	n.a.	n.a.	50	(D)	(D)	(D)	(D)	4	670	670	0	1319	1319	0
Printing and publishing	152	n.a.	n.a.	182	n.a.	n.a.	63	n.a.	n.a.	460	(D)	(D)	354	354	0	519	519	0	1331	1201	130
Rubber and plastics products	96	n.a.	n.a.	20	n.a.	n.a.	18	n.a.	n.a.	125	104	21	200	200	0	191	191	0	167	(D)	(D)
Stone, clay & glass products	210	n.a.	n.a.	430	n.a.	n.a.	148	n.a.	n.a.	296	(D)	(D)	192	(D)	(D)	544	527	16	665	665	0
Transportation equipment	(D)	n.a.	n.a.	(D)	n.a.	n.a.	(D)	n.a.	n.a.	(D)	(D)	3	(D)	2	(D)	(D)	52	(D)	576	309	266
Instruments & related prods.	120	n.a.	n.a.	205	n.a.	n.a.	59	n.a.	n.a.	27	(D)	(D)	92	91	1	413	413	0	1105	1099	6
Other	(D)	n.a.	n.a.	127	n.a.	n.a.	21	n.a.	n.a.	54	(D)	(D)	16	12	4	71	(D)	(D)	173	(D)	(D)
Wholesale trade	281	268	14	438	308	130	462	376	87	198	161	38	840	784	55	804	677	127	1640	1583	56
Motor vehicles and equipment	61	(D)	(D)	21	(D)	(D)	64	(D)	(D)	45	(D)	(D)	69	66	3	(D)	1	(D)	2	2	0
Metals and minerals	7	(D)	0	100	(D)	(D)	3	0	3	(D)	(D)	(*)	(D)	(D)	(*)	7	1	6	(D)	(D)	3
Other durable goods	169	n.a.	n.a.	186	n.a.	n.a.	205	n.a.	n.a.	65	56	9	86	78	9	163	138	25	670	626	44
Farm product raw materials	7	(D)	0	(D)	(D)	0	32	(D)	(D)	4	0	4	(D)	0	(D)	(D)	2	(D)	(D)	(D)	0
Other nondurable goods	37	n.a.	n.a.	(D)	n.a.	n.a.	20	n.a.	n.a.	(D)	(D)	(D)	609	(D)	(D)	580	535	44	957	948	9
Retail trade	940	913	27	421	416	5	684	670	14	95	87	8	1154	1099	56	1217	1198	19	5249	5197	52
Food strs.,eat. & drink.places	(D)	n.a.	n.a.	195	n.a.	n.a.	84	n.a.	n.a.	68	61	7	25	(D)	(D)	(D)	(D)	(D)	347	(D)	(D)
Retail trade, nec	(D)	n.a.	n.a.	226	n.a.	n.a.	600	n.a.	n.a.	27	26	1	1130	(D)	(D)	(D)	(D)	(D)	4902	(D)	(D)
Banking	454	421	33	1053	933	120	427	364	62	173	(D)	(D)	910	(D)	(D)	257	222	35	288	(D)	(D)
Finance, except banking	486	406	80	766	(D)	(D)	499	350	149	457	352	104	802	529	273	489	178	311	1781	672	1109
Insurance	516	498	18	348	(D)	(D)	759	(D)	(D)	121	(D)	(D)	152	152	0	908	891	17	1668	(D)	(D)
Real estate	3483	1719	1763	3737	734	3003	3289	274	3015	2659	249	2410	2227	257	1970	1921	191	1730	5171	372	4800
Other industries	708	n.a.	n.a.	4698	n.a.	n.a.	1157	n.a.	n.a.	846	587	259	1899	1629	270	2105	1795	311	4635	3798	837
Agriculture	245	n.a.	n.a.	248	n.a.	n.a.	175	n.a.	n.a.	106	18	88	68	4	64	43	(D)	(D)	158	61	97
Forestry and fishing	73	n.a.	n.a.	156	n.a.	n.a.	76	n.a.	n.a.	76	0	76	43	0	43	21	0	21	7	0	7
Construction	(D)	n.a.	n.a.	(D)	n.a.	n.a.	34	n.a.	n.a.	43	34	9	51	(D)	(D)	17	17	0	62	(D)	(D)
Transportation	58	n.a.	n.a.	59	n.a.	n.a.	151	n.a.	n.a.	(D)	(D)	(*)	134	(D)	(D)	(D)	(D)	(D)	83	(D)	(D)
Communication & pub. utilities	(D)	n.a.	n.a.	(D)	n.a.	n.a.	59	n.a.	n.a.	(D)	(D)	2	597	597	0	(D)	(D)	0	48	47	1
Services	234	n.a.	n.a.	1418	n.a.	n.a.	662	n.a.	n.a.	585	501	83	1008	903	104	1350	1103	248	4276	3570	706

Table 17.—Outlays for Acquisitions and Establishments, Industry of U.S. Business Enterprise by Type of Investment, 1987-91

[Millions of dollars]

	1987			1988			1989			1990			1991		
	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments
All industries	40310	33933	6377	72692	64855	7837	71163	59708	11455	65932	55315	10617	22598	16821	5777
Petroleum	1107	499	609	4740	4131	609	1189	1125	64	1141	1013	128	660	399	261
Petroleum & coal prods. manuf.	191	191	0	1527	1526	1	604	584	20	91	86	5	(D)	(D)	0
Other	917	308	609	3213	2605	608	586	542	44	1050	927	123	(D)	(D)	261
Manufacturing	19751	18896	855	36136	33686	2450	35958	33236	2723	23898	22789	1109	10553	9141	1413
Food and kindred products	4177	4160	18	3287	3238	48	(D)	(D)	79	997	910	87	757	742	15
Beverages	3084	3072	12	115	110	4	150	140	10	108	104	4	(D)	(D)	(D)
Other	1094	1088	6	3172	3128	44	(D)	(D)	69	889	806	83	(D)	(D)	(D)
Chemicals and allied products	4041	3935	106	2918	2484	434	11584	10766	818	7518	7363	155	2954	1890	1065
Industrial chemicals	3024	2966	58	735	711	24	2204	2175	30	152	97	55	(D)	(D)	2
Drugs	85	85	0	859	496	363	6360	5928	433	3747	3747	0	1452	416	1036
Soap, cleaners, & toiletries	4	4	0	554	554	0	1732	1731	1	1245	1245	0	(D)	(D)	0
Other	928	880	48	769	722	47	1288	933	355	2374	2274	100	392	366	26
Primary and fabricated metals	1091	923	168	3394	3150	244	3545	3409	136	2447	2066	381	348	326	21
Primary metal industries	199	153	46	493	327	167	1386	1292	95	1223	913	309	55	51	4
Ferrous	24	4	21	275	259	15	595	567	27	874	569	305	55	51	4
Nonferrous	175	149	26	219	68	151	792	724	68	349	344	5	0	0	0
Fabricated metal products	892	770	122	2901	2823	78	2159	2118	41	1224	1152	72	293	276	18
Machinery	2834	2609	225	7737	7273	464	4346	4281	65	3795	3532	263	5046	4846	200
Machinery, except electrical	1021	838	182	3223	2962	260	2475	2455	20	2084	1978	105	1031	1007	24
Computer & office equip.	429	255	174	1051	1014	37	1625	1615	10	586	487	98	94	76	18
Other	592	583	9	2172	1948	224	850	840	10	1498	1491	7	937	932	5
Electric & electronic equip.	1814	1771	43	4514	4310	204	1871	1825	46	1712	1554	158	4015	3839	176
Audio, video, & comm.	(D)	(D)	(D)	1493	1492	2	282	278	4	(D)	(D)	32	993	818	175
Electronic components	933	916	17	2119	1997	122	1257	1222	35	1181	1056	126	(D)	(D)	2
Other	(D)	(D)	(D)	902	821	81	332	325	7	(D)	(D)	0	(D)	(D)	0
Other manufacturing	7608	7270	338	18800	17542	1259	(D)	(D)	1625	9141	8918	223	1448	1336	112
Textile products and apparel	559	544	14	628	538	90	397	391	6	689	667	22	165	159	6
Lumber and furniture	9	9	1	83	76	8	(D)	(D)	1	100	77	23	30	27	3
Paper and allied products	(D)	(D)	(D)	219	219	0	(D)	(D)	9	173	169	4	(D)	(D)	2
Printing and publishing	631	631	0	9370	8918	452	3254	2003	1251	1051	1044	7	224	224	0
Newspapers	(D)	(D)	0	516	513	3	75	75	0	(D)	(D)	0	(D)	(D)	0
Other	(D)	(D)	0	8854	8405	449	3179	1928	1251	(D)	(D)	7	(D)	(D)	0
Rubber products	(D)	(D)	(D)	2980	2976	5	669	613	56	(D)	(D)	5	(D)	(D)	33
Misc. plastics products	504	492	12	767	532	235	450	404	47	215	210	5	169	167	2
Stone, clay, & glass products	867	616	251	1720	1704	16	923	880	43	(D)	(D)	82	205	205	0
Transportation equipment	631	601	30	623	270	353	1396	1212	183	695	668	27	158	114	44
Motor vehicles & equipment	75	45	30	(D)	(D)	353	(D)	(D)	183	(D)	(D)	27	100	58	42
Other	556	556	0	(D)	(D)	0	(D)	(D)	0	(D)	(D)	0	58	56	2
Instruments and related prods.	1247	1236	11	2050	1951	99	1631	1607	24	1445	1434	11	275	275	(*)
Other	2432	2425	7	360	358	1	(D)	(D)	5	559	522	37	117	95	22
Wholesale trade	1271	1245	26	2454	2324	130	2634	2504	130	1676	1484	192	443	370	73
Motor vehicles and equipment	0	0	0	78	35	42	86	73	13	69	66	3	14	14	(*)
Professional & commer. equip.	32	28	4	253	248	5	61	44	17	61	43	17	16	9	8
Metals and minerals	(D)	(D)	(D)	77	58	19	12	3	9	(D)	(D)	7	19	2	17
Electrical goods	101	100	1	79	78	1	(D)	(D)	3	52	48	3	33	5	28
Machinery & equipment	(D)	(D)	(D)	114	114	0	(D)	(D)	4	(D)	(D)	11	54	46	9
Other durable goods	171	171	0	202	197	5	245	238	7	462	435	27	18	16	1
Groceries and related products	66	66	0	1427	1427	0	187	140	47	133	44	89	(D)	(D)	1
Farm product raw materials	23	23	0	65	46	19	7	7	0	70	41	29	(D)	(D)	0
Other nondurable goods	708	699	9	159	121	38	1386	1356	31	584	580	5	264	256	8
Retail trade	1212	1210	2	8022	7689	334	1861	1838	23	1250	1197	53	1365	1205	160
General merchandise stores	(D)	(D)	0	7143	7143	0	9	8	1	(D)	(D)	(D)	(D)	(D)	3
Food stores	72	72	1	240	238	2	(D)	(D)	0	(D)	(D)	(D)	(D)	(D)	0
Apparel and accessory stores	(D)	(D)	0	422	93	329	(D)	(D)	0	(D)	(D)	(D)	9	7	1
Other	983	982	1	218	215	3	1623	1602	22	1075	1043	32	289	132	157
Banking	924	774	150	1800	1787	13	349	280	69	897	816	81	433	393	40
Finance, except banking	1604	1333	270	972	470	502	4186	2853	1334	2121	875	1246	1899	1472	427
Insurance	165	138	28	5855	5847	7	1901	1768	133	2093	2007	87	2062	1947	115
Real estate	4765	1544	3220	3518	758	2760	6438	1409	5029	7771	1873	5898	2919	210	2709
Services	7630	6771	859	5597	4759	838	10058	8333	1725	19369	17912	1457	2046	1527	519
Hotels & other lodging places	2682	2019	663	3008	2346	662	2833	1245	1588	6657	5754	903	582	229	353
Business services	4485	4394	92	671	637	34	2268	2244	25	1736	1617	118	582	546	36
Computer & data proc. serv.	483	474	9	367	365	2	303	301	2	221	154	67	(D)	(D)	6
Other business services	4002	3920	82	304	272	32	1965	1943	23	1515	1464	51	(D)	(D)	31
Motion pictures	95	67	27	1149	1135	14	3642	3575	67	9310	9304	6	(D)	(D)	3
Engineering & arch. services	(D)	(D)	0	(D)	(D)	40	(D)	(D)	0	290	287	3	(D)	(D)	0
Account., resch. & mgmt. serv.	283	215	68	68	24	44	70	61	9	259	212	46	32	22	10
Health services	3	3	0	(D)	(D)	(*)	(D)	(D)	0	28	26	2	(D)	(D)	0
Other services	(D)	(D)	9	509	466	43	865	828	37	1090	712	377	409	292	117
Other industries	1881	1522	359	3597	3402	195	6587	6362	225	5716	5349	367	217	158	59
Agriculture, forestry, & fish.	284	137	148	100	71	29	255	145	110	116	53	62	69	49	20
Mining	854	745	109	317	231	85	392	383	9	1328	1289	39	20	20	0
Coal	38	14	24	91	11	80	(D)	(D)	(*)	(D)	(D)	0	(D)	(D)	0
Other	817	731	85	226	221	5	(D)	(D)	9	(D)	(D)	39	(D)	(D)	0
Construction	227	126	101	2118	2067	50	224	177	48	231	178	53	7	6	1
Transportation	(D)	(D)	1	965	958	7	3843	3820	22	306	248	58	54	26	28
Communication & pub. utilities	(D)	(D)	0	97	74	23	1873	1837	37	3735	3581	154	67	57	10

Table 18.--Outlays for Acquisitions and Establishments, Country of UBO, by Industry of U.S. Business Enterprise, 1988

[Millions of dollars]

	All industries	Petroleum	Manufacturing						Wholesale trade	Retail trade	Banking	Finance, except banking	Insurance	Real estate	Services	Other industries
			Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery	Other manufacturing								
All countries	72692	4740	36136	3287	2918	3394	7737	18800	2454	8022	1800	972	5855	3518	5597	3597
Canada	11360	509	2934	1568	0	22	592	753	(D)	7016	(D)	(D)	(D)	269	(D)	364
Europe	37173	2690	17741	1133	1640	1640	3822	9506	2206	601	1743	92	5630	896	2736	2838
Austria	5	0	2	0	2	0	0	0	2	0	0	0	0	0	2	0
Belgium	1207	(D)	446	(D)	0	0	0	(D)	0	0	0	(D)	0	(D)	(*)	7
Denmark	(D)	0	(D)	0	0	0	0	(D)	1	2	0	0	0	0	0	(D)
Finland	325	(D)	305	(D)	(D)	(D)	(D)	39	0	0	0	(D)	0	0	0	5
France	4199	(D)	3472	145	302	1269	98	1657	14	0	0	2	0	33	36	(D)
Germany, Federal Republic of	2090	0	1382	30	182	8	598	564	242	(D)	0	(D)	2	126	(D)	28
Ireland	581	0	172	(D)	0	0	(D)	(D)	0	(D)	(D)	0	(D)	0	(*)	0
Italy	339	0	271	4	(D)	0	(D)	(D)	(*)	0	0	0	0	(D)	0	(D)
Liechtenstein	52	0	0	0	0	0	0	0	0	0	0	(D)	0	(D)	0	0
Luxembourg	(D)	0	(D)	0	0	0	0	(D)	0	0	0	0	(D)	33	1	1
Netherlands	2214	(D)	1285	(D)	(D)	(D)	934	(D)	(D)	(D)	(D)	(D)	0	216	3	(D)
Norway	(D)	0	(D)	0	0	0	0	(D)	0	0	0	0	0	4	0	0
Spain	(D)	0	(D)	0	0	0	0	(D)	0	0	0	0	0	0	5	0
Sweden	907	0	756	(D)	(D)	0	425	295	(D)	0	0	1	(D)	18	(D)	0
Switzerland	2063	3	1445	0	431	(D)	(D)	978	35	0	0	9	(D)	64	265	(D)
United Kingdom	22559	1185	7941	284	657	211	1630	5159	1841	277	1167	(*)	5208	256	2308	2375
Other	(D)	0	0	0	0	0	0	0	0	0	0	0	0	2	0	(D)
Latin America and Other Western Hemisphere	(D)	0	(D)	(D)	(D)	0	(*)	(D)	1	(*)	0	2	(D)	30	14	(D)
South and Central America	(D)	0	(D)	0	(D)	0	0	0	(*)	0	0	2	0	12	0	(*)
Brazil	5	0	0	0	0	0	0	0	0	0	0	2	0	3	0	(*)
Mexico	4	0	0	0	0	0	0	0	(*)	0	0	0	0	4	0	0
Panama	(D)	0	(D)	0	(D)	0	0	0	0	0	0	0	0	2	0	0
Venezuela	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Western Hemisphere	187	0	77	(D)	0	0	(*)	(D)	1	(*)	0	0	(D)	18	14	(D)
Bahamas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bermuda	17	0	0	0	0	0	0	0	1	0	0	0	1	1	14	0
Netherlands Antilles	16	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0
United Kingdom Islands, Caribbean	155	0	77	(D)	0	0	(*)	(D)	0	(*)	0	0	(D)	1	(*)	(D)
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Africa	296	(*)	(D)	0	(D)	0	17	(D)	(D)	1	0	0	0	5	0	0
South Africa	(D)	0	(D)	0	(D)	0	(D)	(D)	(D)	0	0	0	0	3	0	0
Other	(D)	(*)	(D)	0	0	0	(D)	0	0	1	0	0	0	2	0	0
Middle East	1613	1362	(D)	0	0	(D)	0	0	(D)	0	0	0	0	92	(D)	(D)
Israel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kuwait	17	0	(D)	0	0	(D)	0	0	0	0	0	0	0	(D)	0	0
Lebanon	(D)	0	0	0	0	0	0	0	0	0	0	0	0	2	0	(D)
Saudi Arabia	1545	1362	0	0	0	0	0	0	(D)	0	0	0	0	40	(D)	0
United Arab Emirates	(D)	0	0	0	0	0	0	0	0	0	0	0	0	(D)	0	0
Other	9	0	0	0	0	0	0	0	0	0	0	0	0	7	0	3
Asia and Pacific	21819	179	14870	525	852	1720	3296	8477	(D)	404	(D)	862	(D)	2227	2569	318
Australia	4556	(D)	3834	(D)	(D)	0	(D)	3569	(D)	(D)	1	(D)	(D)	(D)	(D)	95
Hong Kong	325	0	2	0	0	0	0	2	6	0	0	(*)	0	(D)	(D)	0
Japan	16188	2	10645	(D)	(D)	1666	3217	4892	127	(D)	(D)	837	0	1853	2273	83
Korea, Republic of	103	(D)	0	0	0	0	0	0	0	0	0	0	0	(D)	0	(D)
Malaysia	(D)	0	0	0	0	0	0	0	0	0	0	0	0	(D)	0	0
New Zealand	106	0	0	0	0	0	0	0	(D)	0	0	0	(D)	0	0	(D)
Philippines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Singapore	20	0	(D)	0	0	0	(D)	(D)	0	0	0	0	0	(D)	1	0
Taiwan	(D)	0	0	0	0	0	0	0	2	0	0	(D)	0	3	0	0
Other	452	0	(D)	(D)	0	54	0	(D)	5	0	1	0	0	(D)	2	0
United States	(D)	0	(D)	(D)	5	(D)	10	0	2	0	0	(D)	0	0	0	0
Addenda --																
European Communities (12)	33737	2678	15162	996	1195	1512	3338	8121	2164	601	1743	62	5539	773	2365	2651
OPEC	1919	1362	(D)	(D)	0	5	0	0	(D)	0	1	0	0	90	(D)	0

Table 19.--Outlays for Acquisitions and Establishments, Country of UBO by, Industry of U.S. Business Enterprise, 1989

[Millions of dollars]

	All industries	Petroleum	Manufacturing						Wholesale trade	Retail trade	Banking	Finance, except banking	Insurance	Real estate	Services	Other industries
			Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery	Other manufacturing								
All countries	71163	1189	35958	6515	11584	3545	4346	9969	2634	1861	349	4186	1901	6438	10058	6587
Canada	4403	392	2361	(D)	(D)	(D)	334	(D)	51	(D)	(D)	(D)	0	241	474	283
Europe	40724	(D)	27527	6121	9636	2433	2795	6541	2125	1137	(D)	926	1852	1648	2650	2380
Austria	(D)	0	27	0	(D)	0	0	(D)	0	1	0	(D)	0	0	0	0
Belgium	498	0	(D)	0	0	0	0	(D)	(D)	(D)	2	0	0	77	(D)	0
Denmark	26	0	(D)	0	0	0	2	(D)	1	0	0	0	0	0	0	(D)
Finland	628	0	582	(D)	(D)	(*)	192	357	0	0	0	(D)	0	0	(D)	3
France	3469	(D)	2608	52	1143	7	873	534	117	(D)	0	(D)	0	28	388	63
Germany, Federal Republic of	2435	(D)	1328	0	655	0	272	401	(D)	(D)	0	(D)	(D)	202	8	55
Ireland	107	0	82	(D)	0	0	0	(D)	0	(D)	0	0	0	(D)	0	8
Italy	436	0	395	(D)	(D)	0	(D)	(D)	(D)	0	(D)	0	0	0	(D)	8
Liechtenstein	77	0	(D)	0	0	0	0	(D)	0	0	0	0	0	16	(D)	(D)
Luxembourg	67	0	0	0	0	0	0	0	0	0	0	0	0	(D)	(D)	0
Netherlands	3629	(D)	2439	(D)	1774	0	(D)	(D)	85	(D)	0	0	(D)	564	20	(D)
Norway	15	0	(D)	0	0	0	(D)	0	0	0	0	0	0	0	5	(D)
Spain	(D)	0	0	0	0	0	0	0	0	0	(D)	(D)	0	3	0	3
Sweden	754	1	368	(D)	(D)	0	(D)	24	(D)	0	1	0	(D)	115	10	(D)
Switzerland	4923	0	2860	(D)	8	1920	(D)	686	(D)	(D)	0	(D)	(D)	74	563	(D)
United Kingdom	23047	(D)	16775	5745	5969	506	690	3866	1192	199	(D)	(D)	315	497	1572	2053
Other	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Latin America and Other Western Hemisphere	1084	(D)	491	(D)	(D)	(D)	4	(D)	38	(D)	0	(D)	(D)	126	(D)	4
South and Central America	650	(D)	(D)	0	(D)	(D)	0	(D)	(D)	(D)	0	(D)	0	8	4	1
Brazil	(D)	0	(D)	0	(D)	(D)	0	0	0	0	0	1	0	(D)	0	8
Mexico	(D)	4	(D)	0	0	0	0	(D)	(*)	0	0	0	0	2	0	1
Panama	29	0	0	0	0	0	0	0	0	(D)	0	1	0	(D)	4	0
Venezuela	(D)	(D)	0	0	0	0	0	0	(D)	0	0	0	0	0	0	0
Other	(D)	0	5	0	0	5	0	0	0	0	0	(D)	0	2	0	0
Other Western Hemisphere	434	0	(D)	(D)	0	0	4	(D)	(D)	160	0	0	(D)	118	(D)	3
Bahamas	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Bermuda	57	0	0	0	0	0	0	0	0	(D)	0	0	0	(D)	(D)	0
Netherlands Antilles	83	0	(D)	0	0	0	0	(D)	0	(D)	0	0	0	70	0	0
United Kingdom Islands, Caribbean	293	0	(D)	(D)	0	0	4	(D)	(D)	(D)	0	0	(D)	(D)	0	3
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Africa	(D)	(D)	4	0	0	0	4	0	0	0	0	0	0	(D)	(D)	5
South Africa	(D)	0	4	0	0	0	4	0	0	0	0	0	0	(D)	0	5
Other	88	(D)	0	0	0	0	0	0	0	0	0	0	0	9	(D)	0
Middle East	243	5	1	0	0	0	0	1	0	0	0	0	0	136	98	3
Israel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kuwait	7	3	1	0	0	0	0	1	0	0	0	0	0	(*)	0	3
Lebanon	5	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
Saudi Arabia	208	2	0	0	0	0	0	0	0	0	0	0	0	(D)	(D)	0
United Arab Emirates	(D)	0	0	0	0	0	0	0	0	0	0	0	0	0	(D)	0
Other	(D)	0	0	0	0	0	0	0	0	0	0	0	0	(D)	0	0
Asia and Pacific	24530	455	5570	308	1912	818	1206	1327	420	211	(D)	2963	(D)	4212	6750	3911
Australia	4574	383	247	0	0	(D)	(D)	216	(D)	0	0	(D)	0	19	84	3700
Hong Kong	810	0	(D)	3	0	0	(D)	0	9	8	0	0	0	141	(D)	0
Japan	17410	(D)	4346	236	1207	790	1021	1092	272	203	8	2851	(D)	3609	5921	121
Korea, Republic of	(D)	0	8	0	0	(D)	2	(D)	(D)	0	0	0	0	(D)	(D)	0
Malaysia	(D)	0	(D)	0	(D)	0	0	0	0	0	0	1	0	(D)	4	0
New Zealand	166	0	(D)	0	0	0	(D)	0	0	0	0	(D)	0	4	0	(D)
Philippines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Singapore	351	0	(D)	(D)	0	0	0	0	0	0	0	(D)	0	(D)	4	0
Taiwan	561	0	371	0	(D)	0	17	(D)	6	0	(D)	0	0	(D)	0	37
Other	185	(D)	(D)	(D)	(D)	0	0	4	0	0	0	0	0	20	0	(D)
United States	(D)	0	4	0	0	0	4	0	0	0	0	0	0	(D)	(D)	0
Addenda --																
European Communities (12)	33869	(D)	23674	6074	9570	513	2063	5454	1997	715	(D)	464	834	1443	2038	2234
OPEC	430	190	5	0	0	0	0	5	(D)	0	0	0	0	124	98	(D)

Table 20.--Outlays for Acquisitions and Establishments, Country of UBO, by Industry of U.S. Business Enterprise, 1990

[Millions of dollars]

	All industries	Petroleum	Manufacturing						Wholesale trade	Retail trade	Banking	Finance, except banking	Insurance	Real estate	Services	Other industries
			Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery	Other manufacturing								
All countries	65932	1141	23898	997	7518	2447	3795	9141	1676	1250	897	2121	2093	7771	19369	5716
Canada	3430	(D)	802	(D)	(D)	118	(D)	492	(D)	655	(D)	(D)	(D)	1071	120	121
Europe	36011	146	17861	678	6413	1551	1568	7651	1275	210	524	809	2078	1502	7427	4180
Austria	(D)	0	2	0	0	0	0	2	(*)	0	0	(D)	0	0	0	0
Belgium	198	0	149	(D)	(D)	0	(D)	(D)	2	(D)	0	0	0	2	36	(D)
Denmark	111	0	(D)	0	0	0	(D)	0	4	0	0	0	0	0	0	(D)
Finland	420	0	368	(D)	(D)	(D)	(D)	(D)	(D)	0	0	(D)	0	(D)	(D)	0
France	10217	(D)	6830	(D)	2433	421	(D)	3875	371	0	(D)	4	0	(D)	2743	87
Germany	2363	5	1434	0	(D)	(D)	706	196	55	0	0	(D)	0	252	(D)	(D)
Ireland	300	0	159	(D)	0	0	(D)	(D)	(D)	0	3	(D)	0	(D)	0	0
Italy	1786	0	33	0	(D)	(*)	(D)	4	(D)	0	0	0	(D)	4	1340	1
Liechtenstein	5	2	1	0	0	0	0	1	0	0	0	0	0	2	0	0
Luxembourg	(D)	0	(D)	0	0	0	0	(D)	0	0	1	0	0	0	0	(D)
Netherlands	2247	(D)	594	(D)	(D)	(D)	154	(D)	(D)	(D)	425	(D)	(D)	640	7	2
Norway	120	0	(D)	0	0	0	0	(D)	0	0	0	0	(D)	0	0	(D)
Spain	(D)	0	(D)	0	0	(D)	4	0	0	0	0	0	(D)	(D)	0	4
Sweden	768	0	532	0	(D)	(D)	50	436	(D)	1	0	0	(D)	87	5	(D)
Switzerland	3905	0	2896	(D)	2113	0	(D)	305	(D)	0	0	3	(D)	85	228	9
United Kingdom	13096	(D)	4442	1	1198	(D)	(D)	2246	147	154	46	(D)	(D)	305	2759	3746
Other	35	0	0	0	0	0	0	0	(D)	0	(D)	0	0	0	(D)	0
Latin America and Other Western Hemisphere	796	(D)	(D)	0	0	5	(D)	(D)	(D)	0	2	(D)	0	207	(D)	25
South and Central America	399	(D)	31	0	0	5	0	26	(D)	0	2	(D)	0	54	0	(D)
Brazil	(D)	0	0	0	0	0	0	0	(*)	0	0	(D)	0	2	0	(*)
Mexico	113	0	(D)	0	0	5	0	(D)	(D)	0	2	1	0	13	0	0
Panama	49	0	(D)	0	0	0	0	(D)	0	0	0	0	0	34	0	(D)
Venezuela	(D)	(D)	4	0	0	0	0	4	0	0	0	0	0	0	0	0
Other	9	0	5	0	0	0	0	5	0	0	0	0	0	5	0	0
Other Western Hemisphere	397	0	(D)	0	0	0	(D)	(D)	33	0	0	(D)	0	154	(D)	(D)
Bahamas	8	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0
Bermuda	136	0	1	0	0	0	0	1	(D)	0	0	(D)	0	(D)	(D)	(D)
Netherlands Antilles	(D)	0	(D)	0	0	0	0	(D)	0	0	0	0	0	(D)	(*)	0
United Kingdom Islands, Caribbean	209	0	(D)	0	0	0	(D)	0	(D)	0	0	0	0	106	0	0
Other	(D)	0	0	0	0	0	0	0	0	0	0	0	0	(D)	0	(D)
Africa	(D)	0	(D)	0	(D)	0	0	0	0	0	0	0	0	1	3	(D)
South Africa	(D)	0	(D)	0	(D)	0	0	0	0	0	0	0	0	0	3	(D)
Other	(D)	0	0	0	0	0	0	0	0	0	0	0	0	1	0	(D)
Middle East	472	0	(D)	0	0	0	(D)	(*)	0	0	0	(D)	0	88	(D)	8
Israel	80	0	(D)	0	0	0	(D)	0	0	0	0	0	0	0	(D)	0
Kuwait	(D)	0	0	0	0	0	0	0	0	0	0	(D)	0	(D)	0	0
Lebanon	(D)	0	0	0	0	0	0	0	0	0	0	0	0	0	(D)	(D)
Saudi Arabia	56	0	(*)	0	0	0	0	(*)	0	0	0	0	0	(D)	3	(D)
United Arab Emirates	17	0	0	0	0	0	0	0	0	0	0	0	0	17	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asia and Pacific	23170	871	5011	276	1065	773	1941	955	265	385	(D)	557	(D)	4902	10460	609
Australia	1412	(D)	639	(D)	0	(D)	0	377	0	0	0	0	0	113	21	(D)
Hong Kong	234	0	2	0	0	0	2	0	(D)	0	0	(*)	0	154	20	(D)
Japan	19933	(D)	3854	130	1065	477	1704	480	186	(D)	45	550	(D)	4421	10327	173
Korea, Republic of	196	2	102	2	0	39	(D)	(D)	2	(D)	(D)	0	0	41	0	2
Malaysia	50	0	(D)	0	0	0	(*)	(D)	0	0	0	(D)	0	0	(D)	0
New Zealand	26	0	(D)	0	0	0	0	(D)	0	0	0	0	0	0	(D)	8
Philippines	4	0	1	0	0	0	0	1	0	0	0	0	0	2	0	0
Singapore	52	0	8	0	0	(D)	(D)	0	0	0	0	(D)	0	(D)	0	4
Taiwan	1114	(D)	362	(D)	0	0	(D)	0	(D)	0	31	0	0	23	(D)	(D)
Other	147	0	9	0	0	0	2	7	(D)	0	0	0	0	(D)	(D)	0
United States	(D)	0	16	(D)	(D)	0	4	(D)	0	0	0	(D)	0	0	(D)	(D)
Addenda --																
European Communities (12)	30741	145	14045	213	4217	1287	1443	6885	1166	209	516	773	1270	1310	7182	4125
OPEC	387	(D)	6	0	0	0	0	6	0	0	0	(D)	0	102	3	(D)

Table 21.--Outlays for Acquisitions and Establishments, Country of UBO, by Industry of U.S. Business Enterprise, 1991

[Millions of dollars]

	All industries	Petroleum	Manufacturing						Wholesale trade	Retail trade	Banking	Finance, except banking	Insurance	Real estate	Services	Other industries
			Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery	Other manufacturing								
All countries	22598	660	10553	757	2954	348	5046	1448	443	1365	433	1899	2062	2919	2046	217
Canada	2646	(D)	1578	(D)	(D)	0	163	214	0	(D)	0	(D)	0	(D)	(D)	79
Europe	12758	125	7282	651	1476	234	4068	853	268	(D)	391	607	(D)	546	922	(D)
Austria	(D)	0	(D)	0	0	0	0	(D)	0	0	0	0	0	0	2	0
Belgium	108	(D)	(D)	0	0	1	0	(D)	0	0	0	0	26	0	(D)	0
Denmark	35	0	35	0	(D)	0	0	(D)	0	0	0	0	0	0	0	0
Finland	(D)	0	(D)	0	(D)	0	0	(D)	0	0	0	0	0	0	0	0
France	4747	(D)	3393	(D)	(D)	(D)	(D)	46	14	0	(D)	45	(D)	(D)	134	4
Germany	1667	0	1311	1	(D)	0	(D)	92	(D)	4	0	(D)	0	68	5	1
Ireland	(D)	0	1	0	0	0	1	0	0	0	(D)	(D)	0	4	0	0
Italy	433	0	407	0	2	0	355	50	0	0	0	25	0	0	1	0
Liechtenstein	7	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0
Luxembourg	15	0	(D)	0	0	0	0	(D)	0	0	0	0	0	(D)	0	0
Netherlands	1589	0	253	(D)	0	7	(D)	168	(D)	(D)	0	2	(D)	164	82	29
Norway	53	(D)	(D)	0	(D)	0	0	0	5	0	0	(D)	0	0	3	1
Spain	363	0	(D)	0	0	0	(D)	(D)	(*)	0	(D)	0	39	(D)	0	2
Sweden	238	0	136	0	2	(D)	(D)	65	(D)	0	0	1	0	77	(D)	0
Switzerland	1322	0	585	(D)	(D)	0	(D)	0	5	0	0	(D)	(D)	23	(D)	(D)
United Kingdom	1811	(D)	920	(D)	(D)	154	212	274	(D)	163	0	(D)	(D)	129	150	23
Other	38	0	(D)	0	0	0	(D)	0	0	0	(D)	1	0	0	(D)	0
Latin America and Other Western Hemisphere	317	(D)	(D)	0	0	0	(D)	(D)	13	(D)	34	0	0	156	2	(D)
South and Central America	90	0	32	0	0	0	0	32	1	0	34	0	0	23	(*)	0
Brazil	18	0	1	0	0	0	0	1	0	0	(D)	0	0	(D)	(*)	0
Mexico	50	0	27	0	0	0	0	27	1	0	(D)	0	0	(D)	0	0
Panama	12	0	4	0	0	0	0	4	0	0	0	0	0	8	0	0
Venezuela	(D)	0	0	0	0	0	0	0	0	0	(D)	0	0	0	0	0
Other	(D)	0	0	0	0	0	0	0	0	0	(D)	0	0	2	0	0
Other Western Hemisphere	227	(D)	(D)	0	0	0	(D)	(D)	12	(D)	0	0	0	133	2	(D)
Bahamas	(D)	0	0	0	0	0	0	0	0	0	0	0	0	(D)	0	0
Bermuda	104	0	0	0	0	0	0	0	7	(D)	0	0	0	(D)	0	(D)
Netherlands Antilles	12	(D)	(D)	0	0	0	0	(D)	0	0	0	0	0	0	2	0
United Kingdom Islands, Caribbean	65	(D)	(D)	0	0	0	(D)	(D)	5	0	0	0	0	22	0	0
Other	(D)	0	0	0	0	0	0	0	0	0	0	0	0	(D)	0	0
Africa	(D)	0	0	0	0	0	0	0	(D)	0	0	0	0	0	0	0
South Africa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	(D)	0	0	0	0	0	0	0	(D)	0	0	0	0	0	0	0
Middle East	1105	0	(D)	0	3	0	(D)	(D)	2	0	0	(D)	0	(D)	(D)	1
Israel	3	0	3	0	0	0	(D)	(D)	0	0	0	0	0	0	0	0
Kuwait	(D)	0	4	0	0	0	4	0	0	0	0	(D)	0	(D)	(D)	0
Lebanon	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Saudi Arabia	13	0	0	0	0	0	0	0	0	0	0	3	0	10	0	0
United Arab Emirates	(D)	0	(D)	0	0	0	0	(D)	0	0	0	0	0	0	0	1
Other	7	0	3	0	3	0	0	0	0	0	0	4	0	1	0	0
Asia and Pacific	5714	23	1572	(D)	(D)	114	783	294	104	707	9	1083	(D)	1084	941	(D)
Australia	97	0	(D)	0	4	(D)	0	(D)	(D)	0	0	0	0	0	0	0
Hong Kong	118	0	1	0	0	0	0	1	(D)	0	0	0	0	51	(D)	0
Japan	5065	22	1287	(D)	(D)	52	669	188	66	707	9	1037	(D)	951	809	(D)
Korea, Republic of	103	0	68	0	0	(D)	(D)	(D)	0	0	0	(D)	0	7	(D)	1
Malaysia	(D)	1	0	0	0	0	0	0	0	0	0	0	0	0	(D)	0
New Zealand	(D)	0	(D)	0	0	(D)	0	0	0	0	0	0	0	0	0	0
Philippines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Singapore	16	0	5	0	0	5	0	0	0	0	0	0	0	3	(D)	(D)
Taiwan	116	0	(D)	0	0	0	(D)	1	3	0	0	0	0	18	0	(D)
Other	142	0	(D)	0	0	0	3	(D)	0	0	0	(D)	0	53	(D)	0
United States	(D)	0	0	0	0	0	0	0	(D)	0	0	0	0	0	2	0
Addenda --																
European Communities (12)	11018	119	6462	585	1088	188	3833	768	249	(D)	(D)	426	1872	438	377	60
OPEC	1232	0	(D)	0	0	0	4	(D)	0	0	(D)	(D)	0	(D)	(D)	1

Table 22--Source of Funding of Outlays for Acquisitions and Establishments, by Industry of U.S. Business Enterprise and Country of UBO, 1989-91

	1989				1990				1991			
	Millions of dollars				Millions of dollars				Millions of dollars			
	Total outlays	Funds from foreign parent groups	Other	Funds from foreign parent groups as a percent of total	Total outlays	Funds from foreign parent groups	Other	Funds from foreign parent groups as a percent of total	Total outlays	Funds from foreign parent groups	Other	Funds from foreign parent group as a percent of total
Total	71,163	48,161	23,002	68	65,932	32,495	33,437	49	22,598	13,113	9,485	58
By industry:												
Petroleum	1,189	441	748	37	1,141	295	846	26	660	74	586	11
Manufacturing	35,958	27,956	8,002	78	23,898	12,698	11,200	53	10,553	6,384	4,169	60
Wholesale trade	2,634	2,031	603	77	1,676	1,410	266	84	443	(D)	(D)	(D)
Retail trade	1,861	764	1,097	41	1,250	457	793	37	1,365	(D)	(D)	(D)
Banking	349	347	2	99	897	434	463	48	433	391	42	90
Finance, except banking	4,186	3,524	662	84	2,121	683	1,438	32	1,899	1,022	877	54
Insurance	1,901	823	1,078	43	2,093	2,046	47	98	2,062	1,811	251	88
Real estate	6,438	4,801	1,637	75	7,771	5,338	2,433	69	2,919	1,552	1,367	53
Services	10,058	4,804	5,254	48	19,369	7,823	11,546	40	2,046	758	1,288	37
Other industries	6,587	2,669	3,918	41	5,716	1,311	4,405	23	217	185	32	85
By country:												
Canada	4,403	2,999	1,404	68	3,430	922	2,508	27	2,646	813	1,833	31
Europe	40,724	31,252	9,472	77	36,011	19,970	16,041	55	12,758	7,880	4,878	62
France	3,469	2,317	1,152	67	10,217	7,136	3,081	70	4,747	3,355	1,392	71
Germany	2,435	1,768	667	73	2,363	1,131	1,232	48	1,667	1,409	258	85
United Kingdom	23,047	19,569	3,478	85	13,096	6,057	7,039	46	1,811	871	940	48
Other	11,773	7,598	4,175	65	10,335	5,646	4,689	55	4,533	2,245	2,288	50
Latin America and Other Western Hemisphere	1,084	725	359	67	796	418	378	53	317	255	62	80
Africa	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Middle East	243	210	33	86	472	317	155	67	1,105	426	679	39
Asia and Pacific	24,530	12,899	11,631	53	23,170	10,122	13,048	44	5,714	3,736	1,978	65
Japan	17,410	11,153	6,257	64	19,933	8,483	11,450	43	5,065	3,216	1,849	63
Other	6,120	1,746	5,374	29	3,237	1,639	1,598	51	649	520	129	80
United States	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Addenda:												
European Communities (12)	33,869	26,604	7,265	79	30,741	17,847	12,894	58	11,018	7,109	3,909	65
OPEC	430	374	56	87	387	295	92	76	1,232	520	712	42

Table 23.--Assets of U.S. Business Enterprises Acquired or Established, Industry of U.S. Business Enterprise by Type of Investment, 1980-86

[Millions of dollars]

	1980			1981			1982			1983			1984			1985			1986		
	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments
All industries	49694	42591	7103	87657	76254	11404	31852	24603	7249	22311	14510	7801	40470	32753	7717	36066	29478	6587	71789	57694	14095
Mining	(D)	181	(D)	3876	(D)	(D)	1387	(D)	(D)	75	(D)	(D)	2634	(D)	(D)	448	(D)	(D)	1419	1412	7
Petroleum	741	612	130	2942	2643	299	1650	1296	353	977	569	408	4631	(D)	(D)	3747	(D)	(D)	6935	6835	100
Manufacturing	6942	6609	333	29754	29313	441	5319	4618	700	3951	3703	248	6619	5715	904	16020	14759	1261	19884	18667	1217
Food and kindred products	501	501	0	529	464	65	474	(D)	(D)	529	524	5	390	(D)	(D)	2939	2917	22	1211	1193	18
Chemicals and allied products ..	144	140	4	(D)	(D)	38	712	(D)	(D)	1123	1114	9	503	(D)	(D)	3391	(D)	(D)	6703	6692	11
Industrial chemicals	80	80	(*)	(D)	(D)	(D)	585	(D)	(D)	561	561	0	134	(D)	(D)	356	356	0	4412	(D)	(D)
Drugs	21	18	3	89	(D)	(D)	(D)	(D)	0	0	0	0	(D)	(D)	(D)	(D)	(D)	(D)	581	579	2
Soap, cleaners, & toiletries .	5	n.a.	n.a.	(D)	n.a.	n.a.	55	n.a.	n.a.	(D)	(D)	0	(D)	(D)	0	0	0	0	124	124	0
Agricultural chemicals	0	n.a.	n.a.	(D)	n.a.	n.a.	(D)	n.a.	n.a.	(D)	(D)	0	26	26	0	(D)	(D)	0	710	710	0
Other	38	n.a.	n.a.	210	n.a.	n.a.	43	n.a.	n.a.	209	200	9	133	133	0	2713	2713	0	876	(D)	(D)
Primary and fabricated metals ..	489	(D)	(D)	(D)	(D)	57	266	(D)	(D)	225	223	2	2743	(D)	(D)	1703	(D)	(D)	1023	755	267
Primary metal industries	319	(D)	(D)	(D)	(D)	36	199	(D)	(D)	(D)	(D)	0	(D)	(D)	(D)	1513	(D)	(D)	540	(D)	(D)
Fabricated metal products	171	147	23	226	205	21	67	62	5	(D)	(D)	2	(D)	(D)	9	189	164	25	483	(D)	(D)
Machinery	1556	1457	99	1821	1751	71	1477	(D)	(D)	720	687	33	664	618	46	2298	1612	687	3420	3334	86
Machinery, except electrical .	1218	1135	83	1428	1381	48	1016	(D)	(D)	230	230	1	461	436	25	894	(D)	(D)	1003	944	59
Electric & electronic equip. .	338	322	16	392	370	23	461	(D)	(D)	490	458	32	203	182	21	1405	(D)	(D)	2417	2390	27
Other manufacturing	4252	n.a.	n.a.	3939	n.a.	n.a.	2390	n.a.	n.a.	1354	1154	199	2318	(D)	(D)	5690	5209	481	7528	6693	835
Textile products and apparel .	584	n.a.	n.a.	130	n.a.	n.a.	(D)	n.a.	n.a.	117	117	0	(D)	(D)	0	(D)	(D)	28	(D)	(D)	0
Lumber and furniture	113	n.a.	n.a.	(D)	n.a.	n.a.	(D)	n.a.	n.a.	3	3	0	(D)	(D)	2	(D)	(D)	0	(D)	(D)	0
Paper and allied products	(D)	n.a.	n.a.	(D)	n.a.	n.a.	487	n.a.	n.a.	71	(D)	(D)	124	(D)	(D)	2658	2658	0	1666	1666	0
Printing and publishing	148	n.a.	n.a.	272	n.a.	n.a.	65	n.a.	n.a.	446	(D)	(D)	397	397	0	599	599	0	1240	1114	126
Rubber and plastics products .	117	n.a.	n.a.	23	n.a.	n.a.	87	n.a.	n.a.	199	154	45	227	227	0	232	232	0	182	119	63
Stone, clay & glass products .	163	n.a.	n.a.	449	n.a.	n.a.	(D)	n.a.	n.a.	298	(D)	(D)	786	(D)	(D)	1013	(D)	(D)	2192	2192	0
Transportation equipment	(D)	n.a.	n.a.	438	n.a.	n.a.	(D)	n.a.	n.a.	(D)	(D)	(D)	(D)	4	(D)	509	87	421	799	250	549
Instruments & related prods. .	259	n.a.	n.a.	(D)	n.a.	n.a.	79	n.a.	n.a.	(D)	25	(D)	107	106	1	482	482	0	1025	(D)	(D)
Other	(D)	n.a.	n.a.	250	n.a.	n.a.	128	n.a.	n.a.	55	(D)	(D)	63	(D)	(D)	88	(D)	(D)	250	(D)	(D)
Wholesale trade	967	907	59	891	480	412	1227	986	240	426	330	96	1177	1050	127	769	534	234	2153	2002	151
Motor vehicles and equipment ...	132	(D)	(D)	93	(D)	(D)	118	(D)	(D)	85	(D)	(D)	93	(D)	(D)	(D)	1	(D)	4	4	0
Metals and minerals	(D)	(D)	0	339	(D)	(D)	(D)	0	(D)	89	(D)	(D)	(D)	(D)	4	50	(D)	(D)	(D)	(D)	(D)
Other durable goods	677	n.a.	n.a.	293	n.a.	n.a.	647	n.a.	n.a.	183	125	58	251	201	50	226	194	32	878	778	101
Farm product raw materials	(D)	(D)	0	5	5	0	(D)	(D)	14	(D)	0	(D)	(D)	0	(D)	(D)	(D)	(D)	(D)	(D)	0
Other nondurable goods	133	n.a.	n.a.	162	n.a.	n.a.	318	n.a.	n.a.	(D)	(D)	3	728	(D)	(D)	401	330	71	1221	(D)	(D)
Retail trade	1179	1099	80	1703	1689	14	1626	1610	16	324	291	33	1471	1404	66	1132	1112	20	4813	4723	90
Food strs.,eat. & drink.places .	760	n.a.	n.a.	192	n.a.	n.a.	168	n.a.	n.a.	174	145	29	26	(D)	(D)	(D)	(D)	(D)	407	(D)	(D)
Retail trade, nec	420	n.a.	n.a.	1511	n.a.	n.a.	1459	n.a.	n.a.	150	146	5	1444	(D)	(D)	(D)	(D)	(D)	4406	(D)	(D)
Banking	20418	19237	1181	24667	21372	3296	7238	5822	1416	6732	(D)	(D)	13568	11300	2268	3559	2166	1393	10355	(D)	(D)
Finance, except banking	8613	8200	412	14696	14106	589	4524	(D)	(D)	5045	4633	412	3752	(D)	(D)	3807	2885	922	7741	5590	2151
Insurance	1587	1409	178	728	(D)	(D)	1541	1342	199	331	(D)	(D)	657	657	0	896	863	33	3901	(D)	(D)
Real estate	5540	3071	2469	5417	1398	4019	4122	635	3487	3491	546	2945	2786	304	2483	2426	290	2136	6425	626	5799
Other industries	(D)	n.a.	n.a.	2985	n.a.	n.a.	3218	n.a.	n.a.	958	636	322	3174	2248	926	3262	2873	389	8162	5023	3140
Agriculture	251	n.a.	n.a.	289	n.a.	n.a.	366	n.a.	n.a.	113	23	91	101	(D)	(D)	56	(D)	(D)	189	87	102
Forestry and fishing	102	n.a.	n.a.	168	n.a.	n.a.	78	n.a.	n.a.	105	0	105	43	0	43	(D)	0	(D)	10	0	10
Construction	787	n.a.	n.a.	(D)	n.a.	n.a.	84	n.a.	n.a.	102	88	14	220	(D)	(D)	29	29	0	275	240	35
Transportation	(D)	n.a.	n.a.	227	n.a.	n.a.	306	n.a.	n.a.	(D)	(D)	1	177	125	53	(D)	(D)	(D)	522	(D)	(D)
Communication & pub. utilities .	(D)	n.a.	n.a.	(D)	n.a.	n.a.	412	n.a.	n.a.	(D)	(D)	4	633	633	0	(D)	(D)	0	295	(D)	(D)
Services	360	n.a.	n.a.	1075	n.a.	n.a.	1972	n.a.	n.a.	549	443	106	1999	(D)	(D)	2459	2140	320	6872	3931	2941

Table 24.—Assets of U.S. Business Enterprises Acquired and Established, Industry of U.S. Business Enterprise by Type of Investment, 1987-91

[Millions of dollars]

	1987			1988			1989			1990			1991		
	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments	Total	Acquisitions	Establishments
All industries	131122	117219	13903	142578	123553	19024	127511	99306	28204	111974	95184	16790	144925	133213	11712
Petroleum	1316	684	632	9096	6789	2307	3169	2859	310	957	(D)	(D)	(D)	538	(D)
Petroleum & coal prods. manuf.	(D)	(D)	0	3480	3463	18	1673	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0
Other	(D)	(D)	632	5615	3326	2289	1496	(D)	(D)	(D)	709	(D)	(D)	(D)	(D)
Manufacturing	24934	23161	1773	44647	40178	4469	40256	36790	3466	30626	28987	1639	12210	10401	1809
Food and kindred products	3485	3156	329	2739	2670	69	3975	3850	125	1201	1090	111	(D)	(D)	(D)
Beverages	2460	2447	13	153	149	4	92	(D)	(D)	76	72	4	(D)	(D)	(D)
Other	1025	709	316	2585	2520	65	3883	(D)	(D)	1125	1018	107	406	406	0
Chemicals and allied products	5237	4976	260	3584	1905	1679	11196	10358	838	5832	5509	323	3024	(D)	(D)
Industrial chemicals	4210	4155	55	961	823	138	2837	(D)	(D)	223	(D)	(D)	(D)	(D)	(D)
Drugs	69	69	0	1612	173	1438	4001	3569	433	1980	1980	0	1536	(D)	(D)
Soap, cleaners, & toiletries	(D)	(D)	0	392	392	0	3037	3036	1	1257	1257	0	(D)	(D)	(D)
Other	(D)	(D)	205	619	517	102	1321	(D)	(D)	2372	(D)	(D)	605	(D)	(D)
Primary and fabricated metals	1903	1605	297	10321	9998	323	6775	6482	293	7930	7404	525	(D)	383	(D)
Primary metal industries	931	772	159	534	326	208	3262	3018	244	4571	4143	428	128	125	4
Ferrous	684	551	133	284	(D)	(D)	2138	(D)	(D)	4284	(D)	(D)	128	125	4
Nonferrous	247	222	26	250	(D)	(D)	1125	(D)	(D)	287	(D)	(D)	0	0	0
Fabricated metal products	972	833	139	9787	9672	115	3513	3464	49	3359	3261	97	(D)	259	(D)
Machinery	4750	4430	320	8974	8391	584	6633	6457	176	4671	4307	363	5986	5685	300
Machinery, except electrical	2182	1949	233	4083	3744	339	4825	4779	46	2479	2299	180	1445	(D)	(D)
Computer & office equip.	1379	1211	168	1535	1473	63	1841	1828	13	776	625	151	75	(D)	(D)
Other	803	738	65	2548	2271	277	2984	2950	34	1702	1673	29	1370	(D)	(D)
Electric & electronic equip.	2568	2481	86	4891	4646	244	1808	1678	130	2192	2009	183	4541	(D)	(D)
Audio, video, & comm.	1372	1371	1	1739	1737	2	119	(D)	(D)	78	(D)	(D)	(D)	(D)	(D)
Electronic components	1088	1058	30	2288	2140	149	1246	1173	73	1420	(D)	(D)	666	665	2
Other	107	52	55	864	770	94	442	(D)	(D)	694	694	0	(D)	(D)	0
Other manufacturing	9559	8993	567	19028	17214	1814	11678	9643	2035	10993	10676	316	2105	1781	324
Textile products and apparel	823	738	85	565	(D)	(D)	522	(D)	(D)	991	962	29	174	(D)	(D)
Lumber and furniture	23	10	12	154	(D)	(D)	72	(D)	(D)	296	266	30	172	(D)	(D)
Paper and allied products	(D)	(D)	(D)	260	260	0	439	(D)	(D)	215	212	4	(D)	(D)	(D)
Printing and publishing	515	515	0	7313	6864	449	3727	2406	1320	821	814	7	214	214	0
Newspapers	(D)	(D)	0	297	294	3	60	60	0	(D)	(D)	0	(D)	(D)	0
Other	(D)	(D)	0	7017	6571	446	3666	2346	1320	(D)	(D)	7	(D)	(D)	0
Rubber products	(D)	(D)	(D)	3199	(D)	(D)	390	355	34	(D)	(D)	(D)	(D)	(D)	(D)
Misc. plastics products	431	407	24	896	562	334	567	430	138	(D)	(D)	5	226	217	9
Stone, clay, & glass products	1802	1456	346	3460	3414	46	1291	1032	259	2071	1996	75	365	365	0
Transportation equipment	888	844	44	1115	368	747	2111	1909	202	1147	1091	56	333	(D)	(D)
Motor vehicles & equipment	89	45	44	(D)	(D)	747	(D)	(D)	202	(D)	(D)	56	196	(D)	(D)
Other	799	799	0	(D)	(D)	0	(D)	(D)	0	(D)	(D)	0	137	136	2
Instruments and related prods.	941	927	15	1676	1579	97	1752	(D)	(D)	1039	(D)	(D)	260	259	1
Other	3286	3267	19	390	388	1	807	(D)	(D)	2405	2347	58	205	174	31
Wholesale trade	1650	1555	95	3806	3360	446	2093	(D)	(D)	2489	2156	333	583	484	99
Motor vehicles and equipment	0	0	0	383	169	214	137	(D)	(D)	141	137	3	35	34	1
Professional & commer. equip.	37	26	12	358	(D)	(D)	179	(D)	(D)	66	(D)	(D)	37	(D)	(D)
Metals and minerals	(D)	0	(D)	127	92	35	32	(D)	(D)	(D)	(D)	15	22	1	20
Electrical goods	88	61	27	44	43	1	367	(D)	(D)	133	127	5	34	(D)	(D)
Machinery & equipment	157	(D)	(D)	131	131	0	117	113	4	248	146	103	114	(D)	(D)
Other durable goods	232	232	0	239	216	22	259	249	9	526	497	29	33	27	6
Groceries and related products	102	102	0	2200	2200	0	249	155	93	140	33	107	(D)	(D)	2
Farm product raw materials	(D)	(D)	0	60	(D)	(D)	7	7	0	(D)	(D)	(D)	(D)	(D)	0
Other nondurable goods	975	962	12	264	190	74	747	628	120	611	593	17	278	277	2
Retail trade	1887	1877	10	9635	9298	337	5539	5488	51	1023	957	66	4015	(D)	(D)
General merchandise stores	(D)	(D)	0	7882	7882	0	(D)	(D)	6	(D)	(D)	0	(D)	(D)	2
Food stores	137	135	2	512	511	2	(D)	(D)	0	(D)	(D)	(D)	(D)	(D)	0
Apparel and accessory stores	(D)	(D)	0	669	339	330	205	205	0	(D)	(D)	(D)	(D)	(D)	1
Other	1161	1153	8	572	567	5	4951	4907	45	881	837	43	536	(D)	(D)
Banking	12649	9475	3174	15779	11742	4037	9278	(D)	(D)	12132	10057	2075	35969	(D)	(D)
Finance, except banking	70747	68828	1918	11445	(D)	(D)	32053	22054	9999	9531	6079	3452	16189	13245	2944
Insurance	591	547	44	16978	(D)	(D)	7208	(D)	(D)	4140	(D)	(D)	(D)	(D)	(D)
Real estate	6777	2209	4568	4228	804	3424	8068	1529	6538	10668	4322	6346	(D)	(D)	2966
Services	5991	4925	1066	9291	8344	947	10161	8066	2095	28050	26469	1581	2870	2205	664
Hotels & other lodging places	2087	1243	844	3315	2588	727	3012	1246	1766	8180	7225	954	740	285	455
Business services	3554	3452	102	1388	1326	62	2107	2011	97	5193	4993	200	1327	1279	48
Computer & data proc. serv.	819	804	15	1035	1034	2	192	(D)	(D)	(D)	(D)	123	(D)	(D)	7
Other business services	2735	2648	87	353	292	60	1915	(D)	(D)	(D)	(D)	77	(D)	(D)	41
Motion pictures	112	84	27	1149	1143	6	3877	3800	77	12524	12520	5	127	(D)	(D)
Engineering & arch. services	(D)	(D)	0	95	(D)	(D)	83	83	0	741	738	3	(D)	(D)	0
Account., resch. & mgmt. serv.	147	63	84	(D)	(D)	55	(D)	(D)	15	137	(D)	(D)	45	(D)	(D)
Health services	5	5	0	(D)	(D)	(D)	(D)	(D)	0	185	(D)	(D)	(D)	(D)	0
Other services	(D)	(D)	9	3218	3145	73	877	737	140	1090	735	354	501	359	141
Other industries	4580	3958	622	17673	17321	352	9686	9417	269	12358	11266	1092	326	242	84
Agriculture, forestry, & fish.	357	175	182	247	198	49	393	251	141	174	96	78	85	(D)	(D)
Mining	1511	1399	111	461	241	220	646	631	14	1383	1335	47	26	26	0
Coal	693	669	24	(D)	(D)	(D)	356	(D)	(D)	(D)	(D)	0	(D)	(D)	0
Other	818	731	87	(D)	(D)	(D)	290	(D)	(D)	(D)	(D)	47	(D)	(D)	0
Construction	888	573	315	4416	4364	52	539	486	53	(D)	(D)	(D)	16	13	3
Transportation	(D)	(D)	14	12421	12414	8	5546	5519	26	(D)	(D)	(D)	69	(D)	(D)
Communication & pub. utilities	(D)	(D)	0	128	104	23	2563	2529	34	1546	1023	524	130	(D)	(D)

Table 25.--Assets, Sales, Net Income, Employment, and Acres of Land Owned by U.S. Business Enterprises Acquired or Established, by Industry of U.S. Business Enterprise, 1988

[Millions of dollars or number]

	Total assets of all U.S. business enter-prises acquired or estab-lished	U.S. business enterprises acquired					U.S. business enterprises established				
		Total assets	Sales	Net income	Number of employees	Number of acres of land owned	Total assets	Sales	Net income	Number of employees	Number of acres of land owned
All industries	142578	123553	87058	2932	695973	4021696	19024	5440	-112	40372	361003
Petroleum	9096	6789	9519	429	16186	51810	2307	212	43	186	20035
Petroleum & coal products manufacturing	3480	3463	7881	(D)	5566	(D)	18	90	56	109	131
Other	5615	3326	1637	(D)	10620	(D)	2289	122	-14	77	19904
Manufacturing	44647	40178	34762	695	294520	128573	4469	3238	-168	28539	11626
Food and kindred products	2739	2670	4601	130	29692	18098	69	(D)	-1	724	78
Beverages	153	149	71	-3	1164	971	4	1	(*)	(D)	(D)
Other	2585	2520	4530	134	28528	17127	65	(D)	-1	(D)	(D)
Chemicals and allied products	3584	1905	2239	92	10993	(D)	1679	1558	-33	13295	2227
Industrial chemicals & synthetics	961	823	922	25	4257	(D)	138	(D)	-3	(D)	0
Drugs	1612	173	219	17	1597	45	1438	1489	-31	13020	2172
Soap, cleaners, and toilet goods	392	392	260	10	1353	106	0	0	0	0	0
Other	619	517	838	40	3786	17153	102	(D)	1	(D)	55
Primary and fabricated metals	10321	9998	7104	131	45430	(D)	323	(D)	21	582	531
Primary metal industries	534	326	376	25	3817	1073	208	(D)	(D)	(D)	(D)
Ferrous	284	(D)	(D)	22	(D)	(D)	(D)	(D)	(*)	(D)	(D)
Nonferrous	250	(D)	(D)	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Fabricated metal products	9787	9672	6728	106	41613	(D)	115	46	(D)	(D)	(D)
Machinery	8974	8391	7807	-288	71901	3194	584	431	-46	2059	455
Machinery, except electrical	4083	3744	3883	13	31944	2177	339	340	-28	1012	289
Computer and office equipment	1535	1473	983	(*)	8891	100	63	56	(D)	539	(D)
Other	2548	2271	2900	13	23053	2077	277	284	(D)	473	(D)
Electric and electronic equipment	4891	4646	3924	-301	39957	1017	244	92	-19	1047	166
Household audio, video, & comm equip	1739	1737	1053	-239	6416	256	2	(*)	(*)	0	(D)
Electronic components & accessories	2288	2140	2043	-81	22651	642	149	23	(D)	513	(D)
Other	864	770	829	19	10890	119	94	68	(D)	534	(D)
Other manufacturing	19028	17214	13011	630	136504	53220	1814	808	-109	11879	8335
Textile products and apparel	565	(D)	593	19	7194	1906	(D)	7	-6	(D)	(D)
Lumber, wood, furniture, & fixtures	154	(D)	116	4	1350	(D)	(D)	(D)	-1	(D)	(D)
Paper and allied products	260	260	346	5	1868	(D)	0	0	0	0	0
Printing and publishing	7313	6864	3259	251	24940	581	449	(D)	(D)	(D)	(D)
Newspapers	297	294	111	4	2613	29	3	(*)	(*)	(D)	(D)
Other	7017	6571	3148	247	22327	552	446	(D)	(D)	(D)	(D)
Rubber products	3199	(D)	4331	158	56615	722	(D)	2	-2	(D)	(D)
Miscellaneous plastics products	896	562	535	37	5136	439	334	65	(D)	2018	(D)
Stone, clay, and glass products	3460	3414	2052	111	19788	47683	46	(D)	(*)	6	(D)
Transportation equipment	1115	368	242	-4	2694	173	747	215	-123	1852	7864
Motor vehicles and equipment	(D)	(D)	(D)	(D)	(D)	(D)	747	215	-123	1852	7864
Other transportation equipmt, nec	(D)	(D)	(D)	(D)	(D)	(D)	0	0	0	0	0
Instruments and related products	1676	1579	1144	43	11156	557	97	(D)	6	(D)	(D)
Other	390	388	394	6	5763	570	1	0	0	(D)	0
Wholesale trade	3806	3360	5656	84	21765	12169	446	530	-12	1002	397
Motor vehicles and equipment	383	169	310	-2	2652	(D)	214	(D)	-1	(D)	(D)
Professional & commerc. equip & supplies	358	(D)	407	1	1817	(D)	(D)	(D)	-1	(D)	0
Metals and minerals, exc. petroleum	127	92	186	9	(D)	(D)	35	(D)	3	(D)	0
Electrical goods	44	43	57	3	528	(D)	1	0	0	0	(D)
Machinery, equipment, and supplies	131	131	228	6	1215	6	0	0	0	0	0
Other durable goods	239	216	354	-6	1194	(D)	22	(D)	(D)	(D)	0
Groceries and related products	2200	2200	3635	49	10511	2021	0	0	0	0	0
Farm product raw materials	60	(D)	70	3	(D)	(D)	(D)	0	0	(D)	0
Other nondurable goods	264	190	410	22	3004	(D)	74	87	(D)	(D)	(D)
Retail trade	9635	9298	14783	277	171982	3950	337	(D)	-4	(D)	(D)
General merchandise stores	7882	7882	11563	326	141524	3592	0	0	0	0	0
Food stores	512	511	2378	3	22630	(D)	2	0	0	0	0
Apparel and accessory stores	669	339	271	(D)	3575	(D)	330	(D)	-4	(D)	(D)
Other	572	567	570	(D)	4253	93	5	17	(*)	(D)	(D)
Banking	15779	11742	1077	110	7686	(D)	4037	233	8	217	(D)
Finance, except banking	11445	(D)	266	1	702	(D)	(D)	103	(*)	450	(D)
Insurance	16978	(D)	6770	610	29711	1868	(D)	(D)	-2	(D)	0
Real estate	4228	804	164	9	751	6056	3424	302	35	1118	203209
Services	9291	8344	4527	247	79110	10540	947	225	1	4415	1375
Hotels and other lodging places	3315	2588	829	49	27793	9128	727	154	-5	3356	(D)
Business services	1388	1326	1191	117	11600	82	62	24	2	105	(D)
Computer & data processing services	1035	1034	885	101	6063	(D)	2	3	(*)	(D)	0
Other business services	353	292	307	16	5537	(D)	60	21	2	(D)	(D)
Motion pictures, incl. TV tape and film	1149	1143	513	28	3283	120	6	0	0	(D)	0
Engineering, architect., & surveying serv	95	(D)	87	1	1277	(D)	(D)	(D)	3	(D)	0
Acctng, research, mgmt., & rel. services	(D)	(D)	(D)	-2	(D)	(D)	55	(D)	1	278	(D)
Health services	(D)	(D)	(D)	(*)	(D)	0	(D)	(D)	-1	0	0
Other	3218	3145	1818	53	33937	1176	73	17	1	635	(D)
Other industries	17673	17321	9536	470	73560	3806288	352	42	-12	360	123922
Agriculture, forestry, and fishing	247	198	76	(*)	950	257739	49	(D)	2	215	121625
Mining	461	241	99	1	664	16342	220	(D)	(D)	(D)	2284
Coal	(D)	(D)	(D)	(*)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Other	(D)	(D)	(D)	(*)	(D)	(D)	(D)	1	(*)	(D)	(D)
Construction	4416	4364	2269	35	13387	155922	52	(*)	-1	(D)	(D)
Transportation	12421	12414	6935	440	57329	3376260	8	(*)	(*)	(D)	(D)
Communication and public utilities	128	104	156	-6	1230	25	23	1	(D)	(D)	0

Table 26.--Assets, Sales, Net Income, Employment, and Acres of Land Owned by U.S. Business Enterprises Acquired or Established, by Industry of U.S. Business Enterprise, 1989

[Millions of dollars or number]

	Total assets of all U.S. business enter-prises acquired or estab-lished	U.S. business enterprises acquired					U.S. business enterprises established				
		Total assets	Sales	Net income	Number of employees	Number of acres of land owned	Total assets	Sales	Net income	Number of employees	Number of acres of land owned
All industries	127511	99306	72710	345	705069	364787	28204	6237	-120	16925	307936
Petroleum	3169	2859	1854	-69	4126	(D)	310	(D)	14	(D)	(D)
Petroleum & coal products manufacturing	1673	(D)	1400	44	2108	1731	(D)	(D)	(D)	(D)	(D)
Other	1496	(D)	454	-113	2018	(D)	(D)	(D)	(D)	(D)	(D)
Manufacturing	40256	36790	39306	302	380467	289032	3466	1463	-3	9323	(D)
Food and kindred products	3975	3850	6385	49	(D)	8050	125	104	-3	228	(D)
Beverages	92	(D)	47	4	590	(D)	(D)	(D)	1	108	(D)
Other	3883	(D)	6337	46	(D)	(D)	(D)	(D)	-4	120	(D)
Chemicals and allied products	11196	10358	6553	420	(D)	(D)	838	(D)	3	371	243
Industrial chemicals & synthetics	2837	(D)	1869	245	10122	8633	(D)	(D)	3	(D)	(D)
Drugs	4001	3569	2393	135	20692	6143	433	(*)	(*)	(D)	(D)
Soap, cleaners, and toilet goods	3037	3036	1492	8	16365	659	1	0	0	0	0
Other	1321	(D)	800	32	(D)	(D)	(D)	(D)	(*)	(D)	(D)
Primary and fabricated metals	6775	6482	8166	61	61048	(D)	293	(D)	2	473	(D)
Primary metal industries	3262	3018	3560	(D)	22292	9449	244	(D)	3	361	(D)
Ferrous	2138	(D)	2092	(D)	14269	(D)	(D)	(*)	-1	(D)	(D)
Nonferrous	1125	(D)	1468	38	8023	(D)	(D)	(D)	4	(D)	(D)
Fabricated metal products	3513	3464	4605	(D)	38756	(D)	49	7	-1	112	65
Machinery	6633	6457	9021	-8	72269	1994	176	92	-3	857	197
Machinery, except electrical	4825	4779	7094	-33	45968	913	46	37	-2	142	(D)
Computer and office equipment	1841	1828	2759	17	12215	157	13	5	(*)	(D)	0
Other	2984	2950	4335	-50	33753	756	34	32	-2	(D)	(D)
Electric and electronic equipment	1808	1678	1927	25	26301	1081	130	55	-1	715	(D)
Household audio, video, & comm equip	119	(D)	73	(*)	5292	(D)	(D)	1	-1	(D)	0
Electronic components & accessories	1246	1173	1218	7	14875	864	73	33	-1	240	182
Other	442	(D)	636	19	6134	(D)	(D)	21	(*)	(D)	(D)
Other manufacturing	11678	9643	9181	-221	88260	134811	2035	1148	-2	7394	525
Textile products and apparel	522	(D)	874	19	12049	310	(D)	(D)	(*)	(D)	(D)
Lumber, wood, furniture, & fixtures	72	(D)	(D)	2	(D)	(D)	(D)	9	(*)	(D)	(D)
Paper and allied products	439	(D)	(D)	9	(D)	646	(D)	(D)	(D)	(D)	0
Printing and publishing	3727	2406	1513	47	14507	634	1320	567	21	2967	1
Newspapers	60	60	24	3	584	7	0	0	0	0	0
Other	3666	2346	1489	44	13923	627	1320	567	21	2967	1
Rubber products	390	355	582	18	5601	373	34	(D)	-6	(D)	(D)
Miscellaneous plastics products	567	430	584	1	3545	330	138	99	-9	955	(D)
Stone, clay, and glass products	1291	1032	1533	14	14833	130214	259	163	5	(D)	(D)
Transportation equipment	2111	1909	1458	(D)	11935	496	202	159	-4	1202	349
Motor vehicles and equipment	(D)	(D)	(D)	(D)	(D)	(D)	202	159	-4	1202	349
Other transportation equipmt, nec	(D)	(D)	(D)	(*)	(D)	(D)	0	0	0	0	0
Instruments and related products	1752	(D)	1314	(D)	14415	1669	(D)	(D)	(D)	(D)	(D)
Other	807	(D)	831	5	6916	(D)	(D)	5	-1	(D)	0
Wholesale trade	2093	(D)	4018	-52	17520	729	(D)	501	(D)	1703	136
Motor vehicles and equipment	137	(D)	190	10	1371	(D)	(D)	(D)	(D)	(D)	0
Professional & commerc. equip & supplies	179	(D)	(D)	3	(D)	(D)	(D)	(D)	-2	(D)	0
Metals and minerals, exc. petroleum	32	(D)	23	(*)	64	(D)	(D)	3	1	(D)	(D)
Electrical goods	367	(D)	840	-127	6127	5	(D)	(D)	(*)	(D)	0
Machinery, equipment, and supplies	117	113	197	-5	708	(D)	4	(D)	(*)	(D)	0
Other durable goods	259	249	600	13	3127	361	9	1	(*)	12	(D)
Groceries and related products	249	155	610	1	1400	55	93	(D)	-9	76	(D)
Farm product raw materials	7	7	(D)	-1	(D)	6	0	0	0	0	0
Other nondurable goods	747	628	1286	54	3649	198	120	167	2	533	(D)
Retail trade	5539	5488	8139	69	175329	(D)	51	95	-3	739	18
General merchandise stores	(D)	(D)	(D)	(D)	(D)	0	6	0	0	0	(D)
Food stores	(D)	(D)	(D)	(D)	(D)	(D)	0	0	0	0	0
Apparel and accessory stores	205	205	247	-27	2931	(D)	0	0	0	0	0
Other	4951	4907	6821	41	162784	2034	45	95	-3	739	(D)
Banking	9278	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	206	(D)
Finance, except banking	32053	22054	2447	186	6977	4180	9999	392	54	104	5
Insurance	7208	(D)	3346	32	8066	67	(D)	(D)	(*)	(D)	0
Real estate	8068	1529	(D)	(D)	(D)	3391	6538	491	47	646	217029
Services	10161	8066	4799	-34	56465	5487	2095	375	-8	3407	2554
Hotels and other lodging places	3012	1246	299	-44	20359	1368	1766	294	-7	2593	2180
Business services	2107	2011	1829	(*)	19228	320	97	39	1	359	(D)
Computer & data processing services	192	(D)	253	1	3014	(D)	(D)	(D)	(*)	(D)	0
Other business services	1915	(D)	1577	-1	16214	(D)	(D)	(D)	1	(D)	(D)
Motion pictures, incl. TV tape and film	3877	3800	1711	26	2898	161	77	3	-4	51	(D)
Engineering, architect., & surveying serv	83	83	84	4	1307	(D)	0	0	0	0	0
Acctng, research, mgmt., & rel. services	(D)	(D)	(D)	-9	(D)	(D)	15	1	(*)	14	0
Health services	(D)	(D)	(D)	-5	(D)	(D)	0	0	0	0	0
Other	877	737	700	-7	7894	3223	140	39	1	390	368
Other industries	9686	9417	8213	-129	52657	35160	269	49	(*)	457	66424
Agriculture, forestry, and fishing	393	251	189	-3	1232	7233	141	20	2	193	65635
Mining	646	631	413	25	2379	23495	14	3	-1	34	(D)
Coal	356	(D)	242	10	994	14186	(D)	3	(*)	(D)	0
Other	290	(D)	171	15	1385	9309	(D)	(*)	-1	(D)	(D)
Construction	539	486	697	(D)	2041	3121	53	5	(*)	(D)	(D)
Transportation	5546	5519	6253	152	41416	333	26	3	-1	(D)	21
Communication and public utilities	2563	2529	661	(D)	5589	978	34	19	1	(D)	(D)

Table 27—Assets, Sales, Net Income, Employment, and Acres of Land Owned by U.S. Business Enterprises Acquired or Established, by Industry of U.S. Business Enterprise, 1990

[Millions of dollars or number]

	Total assets of all U.S. business enterprises acquired or established	U.S. business enterprises acquired					U.S. business enterprises established				
		Total assets	Sales	Net income	Number of employees	Number of acres of land owned	Total assets	Sales	Net income	Number of employees	Number of acres of land owned
All industries	111974	95104	60165	332	454044	209426	16790	5125	110	19493	196954
Petroleum	957	(D)	064	22	2948	1521	(D)	(D)	1	(D)	(D)
Petroleum & coal products manufacturing	(D)	(D)	(D)	-1	(D)	(D)	(D)	(D)	(*)	(D)	(D)
Other	(D)	709	(D)	23	(D)	(D)	(D)	(D)	1	(D)	(D)
Manufacturing	30626	28907	31451	859	235176	167948	1639	1453	22	8419	2756
Food and kindred products	1201	1090	1314	13	0343	1321	111	(D)	-2	(D)	9
Beverages	76	72	115	-1	624	(D)	4	2	(*)	(D)	(D)
Other	1125	1018	1200	14	7719	(D)	107	(D)	-2	(D)	(D)
Chemicals and allied products	5032	5509	3047	239	16567	(D)	323	(D)	-7	(D)	126
Industrial chemicals & synthetics	223	(D)	105	9	569	25	(D)	(D)	-3	(D)	(D)
Drugs	1980	1980	1030	77	6546	413	0	0	0	0	0
Soap, cleaners, and toilet goods	1257	1257	629	37	1089	95	0	0	0	0	0
Other	2372	(D)	2003	117	7563	(D)	(D)	254	-5	733	(D)
Primary and fabricated metals	7930	7404	9702	330	59444	(D)	525	422	43	974	1633
Primary metal industries	4571	4143	5673	215	26802	(D)	428	385	46	603	1573
Ferrous	4284	(D)	(D)	190	(D)	(D)	(D)	(D)	44	(D)	(D)
Nonferrous	287	(D)	(D)	17	(D)	605	(D)	(D)	3	(D)	(D)
Fabricated metal products	3359	3261	4029	115	32562	1835	97	37	-4	371	60
Machinery	4671	4307	5018	-212	45676	1079	363	225	-11	2226	216
Machinery, except electrical	2479	2299	2859	-56	22387	1299	180	114	3	782	(D)
Computer and office equipment	776	625	901	-60	5327	127	151	110	4	(D)	(D)
Other	1702	1673	1950	4	17060	1172	29	5	-1	(D)	(D)
Electric and electronic equipment	2192	2009	2159	-156	23289	500	183	110	-14	1444	(D)
Household audio, video, & comm equip	70	(D)	(D)	-4	094	(D)	(D)	(D)	-2	(D)	0
Electronic components & accessories	1420	(D)	1423	-107	16009	(D)	(D)	(D)	-12	(D)	(D)
Other	694	694	(D)	-46	6306	219	0	0	0	0	0
Other manufacturing	10993	10676	11560	400	105146	116023	316	360	-1	3030	772
Textile products and apparel	991	962	1110	40	14197	694	29	(D)	-2	(D)	(D)
Lumber, wood, furniture, & fixtures	296	266	406	8	2580	07	30	27	-1	(D)	(D)
Paper and allied products	215	212	296	5	1750	160	4	2	(*)	(D)	(D)
Printing and publishing	021	014	414	8	3913	40	7	(D)	(*)	(D)	(D)
Newspapers	(D)	(D)	(D)	(D)	(D)	19	0	0	0	0	0
Other	(D)	(D)	(D)	(D)	(D)	21	7	(D)	(*)	(D)	(D)
Rubber products	(D)	(D)	(D)	3	(D)	(D)	(D)	3	(*)	(D)	(D)
Miscellaneous plastics products	(D)	(D)	(D)	(*)	(D)	218	5	(D)	1	(D)	0
Stone, clay, and glass products	2071	1996	1572	181	12417	15151	75	84	5	539	(D)
Transportation equipment	1147	1091	1320	79	13307	795	56	77	-3	554	49
Motor vehicles and equipment	(D)	(D)	(D)	(D)	(D)	(D)	56	77	-3	554	49
Other transportation equipmt, nec	(D)	(D)	(D)	(D)	(D)	(D)	0	0	0	0	0
Instruments and related products	1039	(D)	1182	-35	12720	536	(D)	(D)	-3	(D)	(D)
Other	2405	2347	2855	199	25819	(D)	58	52	2	674	(D)
Wholesale trade	2409	2156	4320	26	9197	4017	333	735	30	051	645
Motor vehicles and equipment	141	137	(D)	6	864	73	3	(D)	(*)	(D)	(D)
Professional & commerc. equip & supplies	66	(D)	59	(*)	292	(D)	(D)	(D)	1	(D)	(D)
Metals and minerals, exc. petroleum	(D)	(D)	(D)	(D)	(D)	(D)	15	(D)	(*)	(D)	(D)
Electrical goods	133	127	190	(D)	516	(D)	5	(D)	(*)	(D)	0
Machinery, equipment, and supplies	248	146	249	10	030	34	103	70	9	179	7
Other durable goods	526	497	390	4	968	(D)	29	(D)	(*)	(D)	0
Groceries and related products	140	33	173	2	557	(D)	107	(D)	6	(D)	(D)
Farm product raw materials	(D)	(D)	(D)	4	(D)	(D)	(D)	(D)	(*)	(D)	(D)
Other nondurable goods	611	593	877	36	2899	04	17	02	14	50	(D)
Retail trade	1023	957	1427	11	36170	546	66	67	-4	1166	(D)
General merchandise stores	(D)	(D)	(D)	2	(D)	0	0	0	0	0	0
Food stores	(D)	(D)	(D)	-1	(D)	0	(D)	4	(*)	(D)	0
Apparel and accessory stores	(D)	(D)	(D)	1	(D)	0	(D)	1	(*)	0	0
Other	881	837	1099	10	32503	546	43	62	-3	(D)	(D)
Banking	12132	10057	430	51	2713	(D)	2075	(D)	-17	188	(D)
Finance, except banking	9531	6079	832	-56	3559	(D)	3452	225	58	362	(D)
Insurance	4140	(D)	1580	106	9150	(D)	(D)	(D)	3	(D)	0
Real estate	10668	4322	1123	110	2987	4138	6346	556	49	577	139039
Services	28050	26469	7970	140	79839	19308	1581	421	-48	4938	16049
Hotels and other lodging places	8180	7225	1623	26	35346	6355	954	128	-11	1729	(D)
Business services	5193	4993	1050	55	8942	(D)	200	(D)	-40	2021	0
Computer & data processing services	(D)	(D)	703	28	6141	(D)	123	139	(D)	(D)	0
Other business services	(D)	(D)	347	26	2801	6	77	(D)	(D)	(D)	0
Motion pictures, incl. TV tape and film	12524	12520	3666	112	18716	740	5	2	-2	62	0
Engineering, architect., & surveying serv	741	738	912	(D)	6393	(D)	3	(*)	(*)	0	(D)
Acctng, research, mgmt., & rel. services	137	(D)	35	(D)	946	(D)	(D)	4	-4	(D)	(D)
Health services	185	(D)	113	-1	1784	(D)	(D)	(D)	1	(D)	(D)
Other	1090	735	571	-24	7712	11806	354	56	8	768	2385
Other industries	12358	11266	10160	-937	73105	87036	1092	391	16	2856	37403
Agriculture, forestry, and fishing	174	96	67	-5	1231	(D)	78	19	-2	51	35588
Mining	1383	1335	259	30	1604	03975	47	(*)	(*)	(D)	(D)
Coal	(D)	(D)	(D)	1	(D)	(D)	0	0	0	0	0
Other	(D)	(D)	(D)	20	(D)	(D)	47	(*)	(*)	(D)	(D)
Construction	(D)	(D)	(D)	(D)	6394	1483	(D)	158	(D)	623	(D)
Transportation	(D)	(D)	(D)	(D)	61322	(D)	(D)	(D)	(D)	(D)	0
Communication and public utilities	1546	1023	462	31	2474	890	524	(D)	-8	(D)	(D)

Table 28.--Assets, Sales, Net Income, Employment, and Acres of Land Owned by U.S. Business Enterprises Acquired or Established, by Industry of U.S. Business Enterprise, 1991

[Millions of dollars or number]

	Total assets of all U.S. business enter-prises acquired or estab-lished	U.S. business enterprises acquired					U.S. business enterprises established				
		Total assets	Sales	Net income	Number of employees	Number of acres of land owned	Total assets	Sales	Net income	Number of employees	Number of acres of land owned
All industries	144925	133213	43295	-32	212991	266069	11712	3653	41	15030	64784
Petroleum	(D)	538	395	10	1656	(D)	(D)	(D)	(D)	(D)	(D)
Petroleum & coal products manufacturing	(D)	(D)	(D)	(*)	(D)	(D)	0	0	0	0	0
Other	(D)	(D)	(D)	9	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Manufacturing	12210	10401	12863	45	89486	21179	1809	1509	(D)	7896	(D)
Food and kindred products	(D)	(D)	901	-61	4240	2987	(D)	(D)	2	(D)	(D)
Beverages	(D)	(D)	(D)	4	(D)	(D)	(D)	(D)	2	(D)	(D)
Other	406	406	(D)	-66	(D)	(D)	0	0	0	0	0
Chemicals and allied products	3024	(D)	1595	101	7174	1424	(D)	(D)	(D)	(D)	(D)
Industrial chemicals & synthetics	(D)	(D)	(D)	(D)	2534	(D)	(D)	3	(*)	(D)	0
Drugs	1536	(D)	65	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Soap, cleaners, and toilet goods	(D)	(D)	(D)	(D)	(D)	(D)	0	0	0	0	0
Other	605	(D)	470	23	1315	262	(D)	(D)	(D)	(D)	(D)
Primary and fabricated metals	(D)	383	611	-2	4287	367	(D)	25	-3	244	(D)
Primary metal industries	128	125	210	-7	1200	81	4	1	-4	(D)	0
Ferrous	128	125	210	-7	1200	81	4	1	-4	(D)	0
Nonferrous	0	0	0	0	0	0	0	0	0	0	0
Fabricated metal products	(D)	259	401	6	3087	286	(D)	24	(*)	(D)	(D)
Machinery	5986	5685	6812	61	52249	4372	300	252	3	(D)	23
Machinery, except electrical	1445	(D)	3261	-7	16198	1158	(D)	(D)	4	226	(D)
Computer and office equipment	75	(D)	34	-7	416	0	(D)	(D)	3	(D)	0
Other	1370	(D)	3227	(*)	15782	1158	(D)	(D)	1	(D)	(D)
Electric and electronic equipment	4541	(D)	3550	68	36051	3214	(D)	(D)	-1	(D)	(D)
Household audio, video, & comm equip	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-1	(D)	(D)
Electronic components & accessories	666	665	594	-72	6774	(D)	2	1	0	(D)	0
Other	(D)	(D)	(D)	(D)	(D)	(D)	0	0	0	0	0
Other manufacturing	2105	1781	2945	-53	21536	12029	324	414	-16	1549	321
Textile products and apparel	174	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1	(D)	(D)
Lumber, wood, furniture, & fixtures	172	(D)	230	5	2584	383	(D)	(D)	(*)	(D)	(D)
Paper and allied products	(D)	(D)	(D)	3	(D)	0	(D)	(D)	-4	(D)	0
Printing and publishing	214	214	507	(D)	3411	12	0	0	0	0	0
Newspapers	(D)	(D)	(D)	(D)	(D)	(D)	0	0	0	0	0
Other	(D)	(D)	(D)	-6	(D)	(D)	0	0	0	0	0
Rubber products	(D)	(D)	50	1	508	(D)	(D)	80	4	501	(D)
Miscellaneous plastics products	226	217	307	5	2808	166	9	2	-3	(D)	(D)
Stone, clay, and glass products	365	365	295	28	1471	10754	0	0	0	0	0
Transportation equipment	333	(D)	642	4	3754	270	(D)	(D)	(D)	180	(D)
Motor vehicles and equipment	196	(D)	126	-4	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Other transportation equipmt, nec	137	136	517	9	(D)	(D)	2	(D)	-1	(D)	0
Instruments and related products	260	259	365	-7	2736	57	1	(*)	(*)	(D)	(D)
Other	205	174	265	-25	1203	75	31	13	(D)	163	(D)
Wholesale trade	583	484	996	-8	4000	82	99	376	-4	365	21
Motor vehicles and equipment	35	34	(D)	(*)	356	(D)	1	1	(*)	(D)	(D)
Professional & commerc. equip & supplies	37	(D)	(D)	(*)	(D)	0	(D)	(D)	(*)	(D)	(D)
Metals and minerals, exc. petroleum	22	1	4	(*)	(D)	0	20	163	-2	(D)	0
Electrical goods	34	(D)	(D)	(*)	(D)	0	(D)	41	(*)	(D)	(D)
Machinery, equipment, and supplies	114	(D)	(D)	(D)	459	0	(D)	87	2	103	0
Other durable goods	33	27	69	1	224	0	6	(D)	1	(D)	0
Groceries and related products	(D)	(D)	(D)	1	(D)	0	2	1	(*)	(D)	0
Farm product raw materials	(D)	(D)	27	4	27	(D)	0	0	0	0	0
Other nondurable goods	278	277	555	(D)	2385	32	2	3	-4	(D)	0
Retail trade	4015	(D)	(D)	(D)	66150	(D)	(D)	(D)	(D)	(D)	(D)
General merchandise stores	(D)	(D)	(D)	-1	(D)	(D)	2	3	0	(D)	(D)
Food stores	(D)	(D)	(D)	(D)	(D)	(D)	0	0	0	0	0
Apparel and accessory stores	(D)	(D)	(D)	(*)	(D)	0	1	1	(*)	(D)	0
Other	536	(D)	253	22	5016	(D)	(D)	(D)	(D)	(D)	(D)
Banking	35969	(D)	(D)	-9	(D)	1959	(D)	94	-3	161	0
Finance, except banking	16189	13245	1254	33	3770	0	2944	27	9	105	0
Insurance	(D)	(D)	(D)	71	(D)	(D)	(D)	(D)	6	0	0
Real estate	(D)	(D)	100	(D)	200	5086	2966	265	23	(D)	34386
Services	2870	2205	1304	77	16126	7872	664	173	-35	1867	1872
Hotels and other lodging places	740	285	114	(*)	2857	(D)	455	101	-28	1387	(D)
Business services	1327	1279	633	64	6296	(D)	48	11	1	(D)	0
Computer & data processing services	(D)	(D)	276	(D)	(D)	0	7	5	-2	67	0
Other business services	(D)	(D)	357	(D)	(D)	(D)	41	7	3	(D)	0
Motion pictures, incl. TV tape and film	127	(D)	(D)	(D)	(D)	0	(D)	2	(*)	(D)	(D)
Engineering, architect., & surveying serv	(D)	(D)	66	4	809	(D)	0	0	0	0	0
Acctng, research, mgmt., & rel. services	45	(D)	29	(D)	446	(D)	(D)	1	-8	43	0
Health services	(D)	(D)	(D)	-4	(D)	(D)	0	0	0	0	0
Other	501	359	345	-8	4991	2077	141	58	1	306	1808
Other industries	326	242	315	-4	3012	(D)	84	135	-8	960	24871
Agriculture, forestry, and fishing	85	(D)	(D)	-2	(D)	(D)	(D)	2	-7	(D)	(D)
Mining	26	26	(D)	-3	(D)	(D)	0	0	0	0	0
Coal	(D)	(D)	(D)	1	(D)	(D)	0	0	0	0	0
Other	(D)	(D)	2	-4	0	0	0	0	0	0	0
Construction	16	13	45	1	206	0	3	(D)	(*)	(D)	0
Transportation	69	(D)	63	3	622	(D)	(D)	(D)	-1	(D)	(D)
Communication and public utilities	130	(D)	101	-2	930	(D)	(D)	(D)	(*)	(D)	0

Table 29.--Assets of U.S. Business Acquired or Established, by Country of UBO, with Largest Investment, 1987-1991

[Millions of dollars]

	1987		1988		1989		1990		1991	
	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.
All countries	117219	13903	123553	19024	99306	28204	95184	16790	133213	11712
Canada	4364	338	24610	321	15681	313	6123	1566	(D)	(D)
Europe	31344	4221	67506	4050	45404	6043	50715	3604	114437	2371
Austria	0	(D)	(D)	2	(D)	(D)	(D)	2	(D)	0
Belgium	66	122	2029	135	465	123	202	95	(D)	(D)
Denmark	19	5	145	2	43	2	208	0	(D)	(D)
Finland	50	64	211	62	692	45	(D)	(D)	(D)	0
France	3507	121	9803	599	4623	331	11261	286	(D)	591
Germany	6097	563	2240	353	3745	828	1867	668	1628	121
Ireland	40	0	(D)	0	(D)	(D)	(D)	(D)	(D)	(D)
Italy	519	29	348	16	(D)	(D)	(D)	37	(D)	(D)
Liechtenstein	46	40	12	31	44	32	3	2	0	9
Luxembourg	(D)	0	(D)	(D)	(D)	(D)	(D)	0	(D)	0
Netherlands	381	281	14813	154	4559	453	5829	310	4411	92
Norway	(D)	(D)	(D)	0	(D)	(D)	(D)	(D)	(D)	(D)
Spain	0	(D)	(D)	7	(D)	(D)	(D)	(D)	(D)	(D)
Sweden	605	4	3483	317	1128	331	(D)	113	177	287
Switzerland	2540	233	(D)	(D)	9373	242	2783	214	709	405
United Kingdom	17267	2206	28887	799	18539	2113	14615	1218	4463	525
Other	(D)	(D)	0	(D)	5	0	(D)	(D)	(D)	(D)
Latin America and Other Western Hemisphere	3487	776	(D)	(D)	4506	140	4992	293	2533	181
South and Central America	2692	177	(D)	(D)	3657	24	(D)	(D)	2281	52
Brazil	(D)	(D)	0	7	(D)	3	(D)	10	0	27
Mexico	3	9	(D)	(D)	(D)	15	(D)	27	(D)	6
Panama	68	92	(D)	2	(D)	4	(D)	(D)	(D)	5
Venezuela	(D)	(D)	0	(D)	(D)	0	(D)	4	(D)	0
Other	0	8	0	0	(D)	2	(D)	(D)	0	13
Other Western Hemisphere	796	598	170	142	849	116	(D)	(D)	251	129
Bahamas	(D)	(D)	0	0	0	0	0	9	0	(D)
Bermuda	599	0	16	0	(D)	(D)	(D)	(D)	(D)	(D)
Netherlands Antilles	0	(D)	0	99	(D)	(D)	(D)	(D)	7	3
United Kingdom Islands, Caribbean	(D)	(D)	154	43	622	78	(D)	(D)	151	17
Other	0	18	0	0	0	0	0	(D)	(D)	0
Africa	(D)	(D)	287	13	(D)	(D)	(D)	(D)	(D)	0
South Africa	13	6	(D)	3	4	(D)	(D)	0	0	0
Other	(D)	(D)	(D)	10	(D)	(D)	(D)	(D)	(D)	0
Middle East	2079	480	(D)	(D)	27	382	170	359	(D)	(D)
Israel	3	0	0	0	0	0	72	0	(D)	0
Kuwait	2076	394	(D)	(D)	(D)	(D)	0	(D)	(D)	(D)
Lebanon	0	0	(D)	2	0	5	(D)	0	2	0
Saudi Arabia	0	78	(D)	(D)	(D)	(D)	(D)	(D)	(D)	10
United Arab Emirates	0	0	0	(D)	0	(D)	0	17	(D)	2
Other	0	9	(D)	(D)	0	(D)	0	0	3	3
Asia and Pacific	74965	8056	27937	11818	33606	21169	27900	10579	9141	5986
Australia	3736	117	5304	1439	5788	73	3248	212	73	0
Hong Kong	1803	8	(D)	(D)	662	196	(D)	(D)	35	93
Japan	67477	7804	20981	8535	24049	19362	22022	8471	7886	5764
Korea, Republic of	0	52	(D)	(D)	(D)	(D)	98	196	239	20
Malaysia	(D)	(D)	0	(D)	(D)	(D)	(D)	0	(D)	0
New Zealand	1730	18	(D)	(D)	(D)	(D)	(D)	9	(D)	0
Philippines	0	0	0	0	0	0	0	6	0	0
Singapore	2	22	29	6	(D)	(D)	(D)	(D)	3	15
Taiwan	(D)	(D)	0	(D)	97	686	1271	774	(D)	(D)
Other	(D)	0	(D)	(D)	(D)	(D)	92	129	(D)	(D)
United States	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2
Addenda --										
European Communities (12)	28071	3336	61039	2089	33807	5332	38944	3033	113067	1432
OPEC	2354	502	3232	2509	1043	370	(D)	(D)	912	1138

Table 30.--Sales by U.S. Business Enterprises Acquired or Established, by Country of UBO with Largest Investment, 1980-86

[Millions of dollars]

	1980		1981		1982		1983		1984		1985		1986	
	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.
All countries	22625	1724	53925	1877	20682	1397	13981	1273	17560	1459	30561	1570	49108	3668
Canada	3171	54	27700	132	3257	148	4784	16	2904	164	3243	117	7805	224
Europe	14661	1274	16626	1249	12997	541	7497	618	8152	311	21061	1025	25242	1744
European Communities	13675	1152	15589	775	11244	495	6713	548	7249	231	14710	1018	21500	913
Belgium	(D)	(*)	(D)	1	(D)	(D)	79	(*)	99	(D)	180	7	227	142
Denmark	0	0	0	2	9	(*)	(D)	(D)	(D)	0	(D)	(D)	(D)	0
France	5022	54	1029	45	420	(D)	446	23	339	(D)	261	283	4433	113
Germany	1725	119	1458	183	1552	158	713	207	2420	20	2431	564	2191	27
Greece	(*)	(*)	0	1	0	3	0	(*)	0	(*)	0	0	0	0
Ireland	0	1	(D)	2	4	3	(D)	(*)	(D)	1	0	(*)	1608	0
Italy	(D)	2	(D)	(*)	177	5	(D)	(D)	6	0	(D)	(D)	(D)	(*)
Luxembourg	(*)	(D)	(D)	1	0	4	0	(*)	4	4	(D)	0	0	1
Netherlands	830	(D)	1115	172	(D)	25	824	36	1085	4	685	32	5273	19
Portugal	..	..	..	..	..	..	..	..	..	..	..	..	0	4
Spain	..	..	..	..	..	..	..	..	..	..	..	..	3	1
United Kingdom	5458	100	9359	368	5507	233	3768	254	3256	151	10679	120	7493	605
Other Europe	986	122	1037	474	1754	46	785	69	902	80	6351	7	3742	831
Austria	4	2	(D)	(*)	3	1	0	(D)	5	(*)	148	(*)	(D)	(*)
Finland	2	(D)	(D)	0	(D)	9	323	0	(D)	(D)	280	0	(D)	(*)
Liechtenstein	8	19	(D)	19	1	(D)	0	(*)	0	(*)	0	(*)	(D)	(D)
Norway	3	2	(D)	(D)	2	0	0	(D)	(D)	33	2	0	(D)	1
Spain	9	0	(D)	0	(D)	(D)	(D)	7	(D)	0	0	0	..	..
Sweden	444	(D)	333	(D)	224	(*)	(D)	(D)	278	(D)	761	(*)	2426	817
Switzerland	518	39	135	54	1447	20	274	27	503	25	5159	7	554	2
Other	(*)	0	(*)	(*)	0	(*)	0	0	0	(*)	0	0	0	(D)
Japan	(D)	269	1175	326	549	216	409	132	2993	707	573	237	1704	961
Australia, New Zealand, and South Africa	32	(*)	3259	6	307	105	310	(D)	1187	9	2023	1	3108	69
Latin America	721	95	(D)	121	1920	224	453	(D)	795	35	2473	41	6818	64
South and Central America	149	47	(D)	33	546	212	414	31	7	21	(*)	(D)	5855	12
Argentina	0	(D)	(D)	0	0	0	(D)	(*)	0	(D)	0	0	0	0
Brazil	(*)	4	0	(D)	0	6	0	0	0	(*)	0	0	0	0
Mexico	(D)	2	(*)	1	(D)	14	(D)	20	0	3	0	1	(D)	12
Panama	(D)	25	0	2	(D)	(D)	(D)	(*)	7	(D)	(*)	(D)	1	(*)
Venezuela	(*)	(*)	0	(D)	(D)	(D)	0	10	0	1	0	1	5716	0
Other	83	(D)	(*)	7	4	3	2	(*)	0	1	0	1	(D)	(*)
Other Western Hemisphere	572	48	(D)	88	1374	12	38	(D)	788	14	2473	(D)	963	52
Bahamas	126	1	(D)	(*)	0	(*)	0	(*)	(*)	(D)	(D)	(*)	0	1
Bermuda	93	1	(D)	(D)	(D)	5	37	(*)	(D)	3	(D)	(D)	(D)	(D)
Netherlands Antilles	329	46	(D)	59	(D)	2	0	(*)	(D)	(*)	505	0	5	5
United Kingdom Islands, Caribbean	24	(*)	(D)	(D)	(D)	5	0	(D)	3	(D)	(D)	(D)	(D)	(D)
Other	0	0	0	(*)	0	(*)	1	(*)	0	0	0	0	0	0
Middle East	2247	6	(D)	31	840	135	(D)	75	287	156	653	21	(D)	(D)
Israel	751	1	(D)	(*)	0	1	(D)	2	5	0	0	(*)	0	0
Other	1495	5	(D)	31	840	134	(D)	73	282	156	653	21	(D)	(D)
Kuwait	1	(*)	(D)	10	124	(D)	53	13	(D)	(D)	(D)	3	(D)	(*)
Lebanon	0	(*)	185	3	(D)	(D)	4	0	0	(*)	0	1	0	0
Saudi Arabia	1492	2	(D)	7	(D)	1	(D)	41	2	9	285	14	(D)	(D)
United Arab Emirates	2	2	0	11	0	32	(D)	(D)	(D)	(D)	0	4	0	1
Other	1	1	(*)	1	0	1	0	(D)	(D)	(*)	(D)	(*)	(D)	(*)
Other Africa, Asia, and Pacific	(D)	26	151	11	(D)	27	(D)	63	1242	76	(D)	129	3734	(D)
Other Africa	(*)	8	3	(*)	4	(*)	(D)	7	0	(*)	(D)	2	2921	2
Other Asia and Pacific	(D)	18	148	10	(D)	27	(D)	56	1242	76	(D)	128	813	(D)
Hong Kong	74	11	(D)	5	269	19	(D)	23	(D)	28	49	53	(D)	38
Philippines	(D)	3	1	(*)	(D)	(*)	0	9	0	1	0	0	0	0
South Korea	0	0	0	0	(D)	0	0	(D)	0	(D)	(D)	(*)	(D)	(D)
Other	0	4	(D)	6	(D)	8	0	(D)	(D)	(D)	(D)	75	6	3
United States	2	0	(D)	0	(D)	(*)	3	(D)	0	0	(D)	0	(D)	(D)
Addendum—OPEC	1502	5	(D)	38	531	118	171	74	273	157	410	87	(D)	(D)

Table 31.--Sales by U.S. Business Enerprises Acquired or Established, by Country of UBO With Largest Investment, 1987-91

[Millions of dollars]

	1987		1988		1989		1990		1991	
	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.
All countries	45235	3005	87058	5440	72710	6237	60165	5125	43295	3653
Canada	1093	52	21314	86	4829	65	5234	295	2110	1118
Europe	26017	1087	42028	2503	40055	1453	33048	2173	28272	1043
Austria	0	2	(D)	(*)	15	(D)	(D)	(D)	(D)	0
Belgium	136	3	1337	(D)	(D)	24	168	(D)	(D)	9
Denmark	30	(D)	198	0	47	0	200	0	(D)	(*)
Finland	106	(D)	265	(D)	934	9	653	(D)	(D)	0
France	4623	30	6272	514	4101	(D)	8562	264	14747	111
Germany	4196	356	2410	127	4682	165	1754	285	1485	108
Ireland	51	0	515	0	181	1	414	(D)	(D)	0
Italy	(D)	12	594	5	415	175	1257	(D)	2015	(D)
Liechtenstein	(D)	3	7	1	(D)	3	3	0	0	1
Luxembourg	(D)	0	9	1	7	0	76	0	(D)	0
Netherlands	390	(D)	7489	(D)	2113	31	1516	59	2554	20
Norway	(D)	(D)	(D)	0	(D)	(D)	(D)	(D)	68	1
Spain	0	1	(D)	0	(D)	(*)	(D)	(D)	(D)	5
Sweden	428	0	2316	50	957	42	7909	118	189	323
Switzerland	1511	36	1894	(D)	9674	10	1903	55	411	249
United Kingdom	12735	302	18542	168	16119	871	8480	359	2669	186
Other	(D)	(D)	0	(*)	(D)	0	7	(D)	(D)	(D)
Latin America and Other Western Hemisphere	2396	(D)	(D)	(D)	6136	7	1259	82	716	77
South and Central America	(D)	8	(D)	(D)	5340	3	622	46	383	22
Brazil	(D)	3	0	(*)	(D)	(*)	(D)	(D)	0	(D)
Mexico	(*)	3	0	(D)	(D)	2	190	(D)	328	(D)
Panama	(D)	2	(D)	0	(D)	(*)	(D)	7	(D)	1
Venezuela	(D)	1	0	0	(D)	0	(D)	2	(D)	0
Other	0	0	0	0	(D)	(*)	2	3	0	(*)
Other Western Hemisphere	(D)	(D)	265	(D)	795	4	638	36	333	55
Bahamas	(D)	0	0	0	0	0	0	(*)	0	(D)
Bermuda	792	0	28	0	(D)	1	134	(D)	(D)	(D)
Netherlands Antilles	0	(D)	0	(D)	(D)	(*)	(D)	2	(D)	8
United Kingdom Islands, Caribbean	(D)	(D)	237	(*)	590	3	(D)	(D)	266	(*)
Other	0	1	0	0	0	0	0	2	1	0
Africa	(D)	0	318	(D)	(D)	9	(D)	(D)	(D)	0
South Africa	(D)	0	318	0	(D)	0	(D)	0	0	0
Other	(D)	0	(*)	(D)	(D)	9	(D)	(D)	(D)	0
Middle East	411	(D)	(D)	93	2	39	233	(D)	196	(D)
Israel	5	0	0	0	0	0	(D)	0	(D)	0
Kuwait	406	(D)	(D)	2	2	(*)	0	(D)	(D)	(D)
Lebanon	0	0	(D)	0	0	(*)	(D)	0	3	0
Saudi Arabia	0	6	(D)	89	(*)	38	(D)	2	(D)	(*)
United Arab Emirates	0	0	0	3	0	1	0	1	(D)	(*)
Other	0	2	2	0	0	(*)	0	0	2	(*)
Asia and Pacific	14128	1237	15610	2680	21629	4656	19072	2476	11778	1311
Australia	3906	119	3024	125	7440	11	2855	(D)	115	0
Hong Kong	381	(*)	(D)	47	379	28	(D)	37	70	29
Japan	8429	1063	11288	2307	9648	4021	13937	2206	10883	1242
Korea, Republic of	0	(D)	(D)	(D)	(D)	58	189	22	(D)	8
Malaysia	(D)	(*)	0	0	(D)	0	115	0	(D)	0
New Zealand	1347	1	787	4	(D)	(D)	(D)	(D)	(D)	0
Philippines	0	0	0	0	0	0	0	(D)	0	0
Singapore	4	4	30	0	(D)	(D)	28	13	(*)	(D)
Taiwan	(D)	(D)	0	(D)	96	103	953	79	(D)	(D)
Other	(D)	0	(D)	8	(D)	(D)	151	13	(D)	13
United States	(D)	0	(D)	3	(D)	8	(D)	(D)	(D)	(D)
Addenda --										
European Communities (12)	23819	944	37423	851	28371	1365	22485	1704	27298	461
OPEC	1670	(D)	(D)	102	(D)	39	(D)	35	479	(D)

Table 32.—Net Income of U.S. Business Enterprises Acquired or Established, by Country of UBO with Largest Investment, 1980-86

[Millions of dollars]

	1980		1981		1982		1983		1984		1985		1986	
	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.
All countries	748	54	3256	-87	373	-61	235	-12	301	-45	210	-57	1032	136
Canada	181	8	2100	-5	30	2	7	-4	62	13	-45	6	161	5
Europe	470	51	764	-48	262	-37	243	-7	250	-4	658	35	571	48
European Communities	419	54	752	-21	237	-42	231	-7	227	-9	481	38	453	46
Belgium	4	(*)	3	(*)	1	-32	(D)	(*)	3	(*)	(*)	2	2	1
Denmark	0	0	0	1	1	-1	1	(*)	1	0	5	-3	1	0
France	119	-3	47	(*)	46	-2	(*)	(*)	-10	1	-1	24	105	9
Germany	-5	-7	3	-5	-6	-30	22	-2	38	-2	112	4	-2	(*)
Greece	0	(*)	0	-1	0	-1	0	(*)	0	(*)	0	0	0	0
Ireland	0	0	-1	-5	1	(*)	(D)	(*)	1	0	0	0	33	0
Italy	4	1	(D)	-2	1	(*)	6	(*)	(*)	0	(D)	(*)	6	-1
Luxembourg	-2	(D)	(D)	(*)	0	-3	0	(*)	(*)	-1	(D)	0	0	1
Netherlands	30	(D)	25	-12	57	7	39	-2	41	-4	-5	-10	100	-1
Portugal	..	..	..	..	..	..	..	..	..	..	..	..	0	-1
Spain	..	..	..	..	..	..	..	..	..	..	..	..	-1	(*)
United Kingdom	269	-1	659	1	138	20	100	-2	152	-3	376	21	209	38
Other Europe	50	-3	12	-27	25	5	13	-1	23	5	177	-3	118	2
Austria	(*)	(*)	-1	(*)	1	-1	0	-2	1	(*)	2	(*)	(D)	(*)
Finland	1	2	(*)	0	3	1	(D)	0	4	(*)	13	0	1	(*)
Liechtenstein	(*)	-1	(D)	(D)	(*)	(*)	0	(*)	0	(*)	0	(*)	(D)	(*)
Norway	(*)	(*)	(D)	-6	(*)	0	0	1	(*)	2	(*)	0	1	(*)
Spain	-1	0	-3	0	2	6	(D)	2	2	0	0	0	..	..
Sweden	22	(*)	4	(D)	17	(*)	-8	(*)	9	0	-23	-1	41	5
Switzerland	28	-4	3	1	2	(*)	2	-1	8	2	185	-2	66	-3
Other	(*)	0	(*)	0	0	(*)	0	0	0	0	0	0	0	(*)
Japan	64	-6	8	-16	5	-7	16	7	-180	-34	17	-74	40	100
Australia, New Zealand, and South Africa	2	(*)	(D)	-1	1	-8	9	-1	(D)	-3	(D)	-1	-53	-11
Latin America	15	5	23	-12	59	1	-44	4	(D)	-15	5	-2	129	3
South and Central America	4	3	1	-1	30	1	(D)	-4	(*)	-1	(*)	-1	40	1
Argentina	0	1	1	0	0	0	-6	-1	0	(*)	0	0	0	0
Brazil	(*)	(*)	0	(*)	0	(D)	0	0	0	(*)	0	0	0	0
Mexico	(*)	(*)	0	(*)	6	(D)	(*)	-3	0	-1	0	-1	(*)	1
Panama	2	2	0	-1	(D)	-8	(D)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Venezuela	0	-1	0	(*)	(D)	-1	0	1	0	(*)	0	(*)	39	0
Other	2	(*)	(*)	(*)	1	(*)	(*)	(*)	0	-1	0	0	(*)	0
Other Western Hemisphere	11	3	22	-11	29	(*)	(D)	8	(D)	-13	5	-1	89	2
Bahamas	3	(*)	1	(*)	0	(*)	0	(*)	(*)	(*)	-1	(*)	0	(*)
Bermuda	-7	-1	(D)	-1	5	-1	3	0	4	-1	-4	-2	83	1
Netherlands Antilles	12	4	5	-10	17	(*)	0	(*)	(D)	(D)	6	0	1	(*)
United Kingdom Islands, Caribbean	3	(*)	(D)	(*)	8	1	0	8	1	(D)	4	1	4	1
Other	0	0	0	0	0	(*)	(D)	(*)	0	0	0	0	0	0
Middle East	8	-4	(D)	-3	13	-14	1	-1	-4	4	49	-5	(D)	(D)
Israel	-5	(*)	0	(*)	0	(*)	-2	(*)	(*)	0	0	(*)	0	0
Other	13	-4	(D)	-3	13	-14	3	-1	-4	4	49	-5	(D)	(D)
Kuwait	(*)	-1	(D)	1	11	(*)	(*)	5	-1	3	(D)	(*)	-1	(*)
Lebanon	0	-2	-6	-4	3	-9	(*)	0	0	(*)	0	(*)	0	0
Saudi Arabia	13	-2	11	-1	-1	-2	3	-6	-1	(*)	(D)	-1	3	(D)
United Arab Emirates	(*)	(*)	0	(*)	0	-3	-1	-1	-4	2	0	-3	0	(*)
Other	0	0	(*)	(*)	0	(*)	0	1	2	(*)	-3	(*)	(D)	0
Other Africa, Asia, and Pacific	8	(*)	3	-2	(D)	1	3	-6	-1	-7	-7	-17	140	-8
Other Africa	(*)	(*)	(*)	-1	-1	(*)	(D)	(*)	0	(*)	-8	(*)	128	1
Other Asia and Pacific	8	(*)	3	-1	(D)	1	(D)	-6	-1	-7	1	-17	12	-8
Hong Kong	7	-1	3	-1	14	3	(D)	-2	-5	-5	1	2	8	-8
Philippines	2	(*)	(*)	(*)	(*)	(*)	0	4	0	(*)	0	0	0	0
South Korea	0	0	0	0	1	0	0	-5	0	(*)	(*)	(D)	4	1
Other	0	(*)	-1	(*)	(D)	-2	0	-3	5	-2	-1	(D)	(*)	-1
United States	(*)	0	2	0	(D)	(*)	(*)	-4	0	0	(D)	0	(D)	(D)
Addendum—OPEC	13	-4	97	1	8	-5	3	-2	-2	5	52	-7	166	(D)

Table 33.--Net Income of U.S. Business Enterprises Acquired or Established, by Country of UBO with Largest Investment, 1987-91

[Millions of dollars]

	1987		1988		1989		1990		1991	
	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.
All countries	907	-56	2932	-112	345	-120	332	110	-32	41
Canada	20	-8	790	2	-154	4	176	21	(D)	-32
Europe	458	-16	1720	10	-76	-9	-158	26	187	-17
Austria	0	-2	-1	(*)	3	(*)	(*)	1	2	0
Belgium	-1	1	31	7	1	(*)	-5	-3	6	3
Denmark	-5	1	5	0	-4	0	4	0	(D)	-1
Finland	-1	1	23	-1	12	-2	18	(D)	4	0
France	36	(*)	186	20	121	-8	287	10	155	5
Germany	240	(*)	54	-35	-76	14	-50	7	78	-4
Ireland	2	0	30	0	9	(*)	-5	5	(*)	0
Italy	6	-3	4	(*)	-12	-26	-50	-4	-12	-4
Liechtenstein	-1	(D)	(*)	(*)	-3	(*)	(*)	0	0	(*)
Luxembourg	9	0	1	-1	4	0	-3	0	2	0
Netherlands	-28	(D)	379	(D)	37	-1	127	-12	80	-1
Norway	2	(*)	5	0	(D)	2	-3	2	4	1
Spain	0	-1	7	0	(D)	(*)	(*)	(D)	-31	(*)
Sweden	-6	0	-12	-3	62	(*)	(D)	3	-2	-7
Switzerland	78	1	214	(D)	-333	4	(D)	5	-9	-7
United Kingdom	126	-4	794	-4	90	9	216	9	-88	-2
Other	(*)	(*)	0	(*)	(*)	0	3	(*)	(D)	-1
Latin America and Other Western Hemisphere	-30	6	(D)	-7	24	2	-21	2	4	-1
South and Central America	-38	-1	(D)	(*)	47	2	10	2	-8	-1
Brazil	8	1	0	(*)	6	(*)	1	1	0	-2
Mexico	(*)	1	0	(*)	(D)	2	10	2	-6	1
Panama	(D)	-3	(D)	0	(D)	(*)	1	-1	-2	(*)
Venezuela	(D)	1	0	0	2	0	-3	(*)	(*)	0
Other	0	0	0	0	-4	(*)	(*)	-1	0	(*)
Other Western Hemisphere	8	7	9	-8	-23	(*)	-31	1	12	(*)
Bahamas	(D)	0	0	0	0	0	0	(*)	0	-4
Bermuda	25	0	1	0	1	(*)	(D)	1	2	4
Netherlands Antilles	0	(D)	0	-7	(D)	(*)	-4	(*)	-1	1
United Kingdom Islands, Caribbean	(D)	(D)	8	-1	(D)	(*)	(D)	(*)	11	(*)
Other	0	0	0	0	0	0	0	(*)	(*)	0
Africa	(D)	0	6	1	8	-3	(D)	(*)	1	0
South Africa	-4	0	(D)	0	(D)	0	(D)	0	0	0
Other	(D)	0	(D)	1	(D)	-3	(*)	(*)	1	0
Middle East	11	-33	(D)	-14	(*)	-7	(*)	(*)	6	9
Israel	(*)	0	0	0	0	0	4	0	-1	0
Kuwait	11	(D)	(*)	-3	(*)	(*)	0	(*)	1	9
Lebanon	0	0	2	0	0	(*)	-1	0	(*)	0
Saudi Arabia	0	(D)	(D)	-12	(*)	-7	-4	(*)	1	(*)
United Arab Emirates	0	0	0	1	0	(*)	0	(*)	4	(*)
Other	0	(*)	(*)	0	0	(*)	0	0	(*)	(*)
Asia and Pacific	565	-5	76	-101	543	-109	407	59	-195	82
Australia	48	4	134	-13	175	1	128	(*)	7	0
Hong Kong	6	(*)	-1	-10	-31	-1	(D)	-3	(*)	-2
Japan	430	-12	-84	-77	414	-106	283	76	-236	84
Korea, Republic of	0	2	(*)	-4	5	(D)	-5	-4	24	-1
Malaysia	(*)	(*)	0	0	(D)	0	6	0	-2	0
New Zealand	86	(*)	(D)	2	(D)	(*)	(D)	2	(*)	0
Philippines	0	0	0	0	0	0	0	(*)	0	0
Singapore	(*)	(*)	-3	0	1	(*)	1	-1	-4	(*)
Taiwan	(D)	(*)	0	1	9	(D)	-72	-10	(D)	(*)
Other	(D)	0	(D)	(*)	(D)	9	-7	-1	(D)	(*)
United States	(D)	0	-8	-2	(*)	3	(D)	2	(D)	(*)
Addenda --										
European Communities (12)	386	-17	1491	-11	185	-12	527	25	203	-3
OPEC	(D)	-33	(D)	-14	9	-7	-6	-1	16	(D)

Table 34.--Employment of U.S. Business Enterprises Acquired or Established, by Country of UBO with Largest Investment, 1980-86

[Number of employees]

	1980		1981		1982		1983		1984		1985		1986	
	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.
All countries	279459	13022	428745	14072	225673	8169	102557	5556	168406	4139	264467	11026	418965	19046
Canada	39371	871	204552	1147	47171	703	13125	563	40993	403	37464	972	113041	1509
Europe	188221	8899	162643	11423	119780	2551	77231	3939	81853	1216	176836	5566	239580	8818
European Communities	172550	8457	144717	7714	103651	2113	68162	3661	76828	964	128433	5416	206623	5483
Belgium	(D)	(D)	(D)	0	(D)	(D)	(D)	0	1355	(D)	2012	6	2206	(D)
Denmark	0	0	0	(D)	156	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0
France	44924	(D)	12071	145	5095	82	5840	122	6037	(D)	3023	2099	42583	1395
Germany	25212	1516	14167	2858	14209	486	7984	936	17747	75	29275	2812	17115	503
Greece	0	0	0	(D)	0	14	0	0	0	0	0	0	0	0
Ireland	0	0	755	(D)	(D)	7	(D)	(D)	281	(D)	0	(D)	12768	0
Italy	(D)	(D)	(D)	(D)	1657	(D)	1828	(D)	(D)	(D)	(D)	(D)	1586	48
Luxembourg	(D)	(D)	(D)	(D)	0	(D)	0	(D)	(D)	(D)	(D)	0	0	(D)
Netherlands	8544	(D)	17701	1317	(D)	42	9948	304	9633	(D)	7876	128	45466	45
Portugal	--	--	--	--	--	--	--	--	--	--	--	--	0	(D)
Spain	--	--	--	--	--	--	--	--	--	--	--	--	(D)	(D)
United Kingdom	87334	659	93876	3349	72202	1197	38447	2259	41592	509	84211	266	84567	2634
Other Europe	15671	442	17926	3709	16129	438	9069	278	5025	252	48403	150	32957	3335
Austria	(D)	6	(D)	0	(D)	(D)	0	(D)	(D)	(D)	(D)	0	(D)	0
Finland	(D)	(D)	(D)	0	(D)	(D)	2810	0	(D)	(D)	1538	(D)	(D)	(D)
Liechtenstein	(D)	(D)	(D)	7	0	(D)	0	0	0	0	0	0	(D)	(D)
Norway	(D)	(D)	(D)	(D)	(D)	0	0	(D)	(D)	(D)	(D)	0	(D)	(D)
Spain	(D)	0	(D)	0	(D)	(D)	(D)	(D)	(D)	0	0	0	--	--
Sweden	8306	(D)	5625	(D)	2693	(D)	(D)	207	1904	(D)	7632	(D)	22960	(D)
Switzerland	6964	227	1654	(D)	12627	279	3892	32	1737	146	38139	(D)	6149	(D)
Other	0	0	0	0	0	(D)	0	0	0	(D)	0	0	0	(D)
Japan	13148	1674	15031	1060	15806	672	4104	193	17040	1681	7839	3130	10702	7735
Australia, New Zealand, and South Africa	367	(D)	16507	(D)	3762	827	1030	107	11074	(D)	6935	8	23567	200
Latin America	12755	841	9549	231	15100	1405	3278	136	11704	(D)	24952	(D)	11782	135
South and Central America	2461	395	(D)	160	4674	1320	2910	118	16	(D)	4	(D)	4941	43
Argentina	0	(D)	(D)	0	0	0	(D)	0	0	(D)	0	0	0	0
Brazil	0	(D)	0	72	0	64	0	0	0	(D)	0	0	0	(D)
Mexico	(D)	22	0	27	(D)	(D)	(D)	45	0	(D)	0	(D)	(D)	21
Panama	(D)	(D)	0	27	684	(D)	(D)	(D)	16	(D)	4	12	(D)	(D)
Venezuela	(D)	22	0	(D)	(D)	(D)	0	(D)	0	(D)	0	0	3245	0
Other	1513	24	(D)	(D)	(D)	(D)	(D)	35	0	6	0	0	188	(D)
Other Western Hemisphere	10294	446	(D)	71	10426	85	368	18	11688	28	24948	(D)	6841	92
Bahamas	(D)	0	(D)	(D)	0	(D)	0	(D)	(D)	(D)	(D)	0	0	(D)
Bermuda	1129	(D)	(D)	(D)	(D)	(D)	(D)	0	(D)	(D)	11775	(D)	5130	0
Netherlands Antilles	7062	(D)	(D)	33	(D)	(D)	0	(D)	(D)	0	(D)	0	(D)	(D)
United Kingdom Islands, Caribbean	(D)	0	1172	(D)	(D)	(D)	0	11	(D)	(D)	(D)	(D)	(D)	(D)
Other	0	0	0	(D)	0	(D)	(D)	(D)	0	0	0	0	0	0
Middle East	23729	(D)	(D)	(D)	(D)	1708	1901	(D)	2845	157	5597	(D)	(D)	(D)
Israel	(D)	0	(D)	(D)	0	(D)	(D)	(D)	(D)	0	0	0	0	0
Other	(D)	(D)	12849	70	(D)	(D)	(D)	(D)	(D)	157	5597	(D)	(D)	(D)
Kuwait	0	(D)	(D)	(D)	1089	(D)	313	3	(D)	130	(D)	(D)	(D)	0
Lebanon	0	0	(D)	0	(D)	(D)	(D)	0	0	(D)	0	0	0	0
Saudi Arabia	(D)	(D)	1058	34	(D)	(D)	(D)	102	(D)	(D)	1618	(D)	(D)	(D)
United Arab Emirates	(D)	0	0	(D)	0	(D)	0	(D)	(D)	(D)	0	0	0	0
Other	(D)	23	0	(D)	0	(D)	0	(D)	(D)	0	(D)	0	5670	0
Other Africa, Asia, and Pacific	1868	313	1950	(D)	5886	303	1844	337	2897	583	(D)	1221	12388	413
Other Africa	0	9	(D)	(D)	(D)	(D)	(D)	(D)	0	(D)	(D)	(D)	6452	(D)
Other Asia and Pacific	1868	304	(D)	74	(D)	(D)	(D)	(D)	2897	(D)	1452	(D)	5936	(D)
Hong Kong	(D)	(D)	351	19	3778	261	(D)	68	(D)	340	892	(D)	4510	(D)
Philippines	(D)	(D)	(D)	0	(D)	0	0	(D)	0	(D)	0	0	0	0
South Korea	0	0	0	0	(D)	0	0	198	0	(D)	(D)	(D)	(D)	(D)
Other	0	(D)	(D)	55	1271	(D)	0	(D)	(D)	(D)	(D)	41	(D)	(D)
United States	0	0	(D)	0	(D)	0	44	(D)	0	0	(D)	0	(D)	(D)
Addendum—OPEC	5519	444	10013	89	5787	566	(D)	190	2615	167	2681	72	9151	152

Table 35.--Employment of U.S. Business Enterprises Acquired or Established, by Country of UBO with Largest Investment, 1987-91

[Number of employees]

	1987		1988		1989		1990		1991	
	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.	Acquired	Establ.
All countries	374238	19867	695973	40372	705069	16925	454844	19493	212991	15030
Canada	8401	463	222723	279	38542	369	60908	1981	13926	(D)
Europe	219792	8075	309529	24119	374770	7676	254659	8169	110279	4394
Austria	0	(D)	(D)	(D)	248	(D)	(D)	(D)	(D)	0
Belgium	1215	0	14647	8	(D)	(D)	1677	265	(D)	(D)
Denmark	204	(D)	(D)	0	(D)	0	1606	0	(D)	(D)
Finland	496	(D)	2339	(D)	7119	(D)	3281	(D)	(D)	0
France	29287	(D)	52692	(D)	22327	(D)	66923	841	38671	164
Germany	31875	3701	23149	1106	43977	708	14532	(D)	7767	313
Ireland	365	0	3156	0	890	(D)	4227	(D)	(D)	0
Italy	3140	160	4581	(D)	5444	257	2333	175	7391	(D)
Liechtenstein	(D)	(D)	(D)	0	(D)	(D)	(D)	0	0	0
Luxembourg	(D)	0	(D)	0	(D)	0	(D)	0	(D)	0
Netherlands	4683	(D)	38832	(D)	13964	(D)	10275	585	17812	127
Norway	(D)	(D)	(D)	0	(D)	(D)	(D)	(D)	379	0
Spain	0	(D)	(D)	(D)	(D)	0	(D)	(D)	(D)	(D)
Sweden	4852	0	17827	(D)	6312	(D)	64589	102	1439	429
Switzerland	13221	(D)	14635	(D)	75033	(D)	9336	316	3749	(D)
United Kingdom	126939	1117	133857	705	190062	4994	74016	2710	16555	902
Other	(D)	(D)	0	(D)	(D)	0	(D)	(D)	(D)	(D)
Latin America and Other Western Hemisphere	16798	(D)	(D)	26	(D)	33	4012	793	4964	230
South and Central America	1723	(D)	(D)	(D)	(D)	17	1690	(D)	2456	89
Brazil	(D)	(D)	0	0	(D)	(D)	(D)	(D)	0	(D)
Mexico	0	(D)	0	(D)	(D)	10	582	(D)	1051	(D)
Panama	(D)	0	(D)	(D)	(D)	(D)	(D)	0	(D)	0
Venezuela	(D)	0	0	0	1350	0	(D)	(D)	(D)	0
Other	0	(D)	0	0	(D)	(D)	(D)	0	0	(D)
Other Western Hemisphere	15075	(D)	3433	(D)	8265	16	2322	(D)	2508	141
Bahamas	(D)	0	0	0	0	0	0	(D)	0	0
Bermuda	13985	0	415	0	(D)	(D)	1040	(D)	(D)	(D)
Netherlands Antilles	0	(D)	0	(D)	(D)	8	(D)	0	(D)	(D)
United Kingdom Islands, Caribbean	(D)	(D)	3018	(D)	5476	(D)	(D)	20	1788	(D)
Other	0	0	0	0	0	0	0	0	(D)	0
Africa	(D)	(D)	2077	(D)	(D)	0	(D)	(D)	(D)	0
South Africa	(D)	(D)	(D)	(D)	(D)	0	(D)	0	0	0
Other	(D)	(D)	(D)	0	0	0	(D)	(D)	(D)	0
Middle East	4335	(D)	(D)	(D)	(D)	18	1984	(D)	2232	(D)
Israel	(D)	0	0	0	0	0	(D)	0	(D)	0
Kuwait	(D)	7	(D)	(D)	(D)	(D)	0	0	(D)	0
Lebanon	0	0	(D)	0	0	0	(D)	0	(D)	0
Saudi Arabia	0	(D)	(D)	(D)	(D)	(D)	(D)	0	(D)	0
United Arab Emirates	0	0	0	0	0	(D)	0	(D)	(D)	(D)
Other	0	(D)	0	0	0	0	0	0	(D)	0
Asia and Pacific	116642	5833	151343	15165	150193	8829	130437	8063	80804	5776
Australia	46823	837	13108	117	44462	51	(D)	(D)	1040	0
Hong Kong	4766	0	(D)	996	(D)	38	(D)	(D)	221	(D)
Japan	51479	4269	131241	13494	51459	7527	90212	6660	74414	5055
Korea, Republic of	0	(D)	(D)	(D)	(D)	(D)	1312	154	1062	86
Malaysia	(D)	0	0	0	(D)	0	1296	0	(D)	0
New Zealand	12842	0	3466	0	(D)	(D)	(D)	(D)	(D)	0
Philippines	0	0	0	0	0	0	0	(D)	0	0
Singapore	(D)	(D)	382	0	(D)	0	(D)	(D)	(D)	(D)
Taiwan	(D)	(D)	0	(D)	712	241	5241	678	(D)	21
Other	(D)	0	(D)	19	(D)	(D)	1347	(D)	(D)	49
United States	(D)	(D)	(D)	(D)	(D)	0	(D)	(D)	(D)	(D)
Addenda --										
European Communities (12)	200660	6755	274063	9411	284825	7042	176900	7266	102576	1682
OPEC	5028	(D)	(D)	748	1472	22	324	21	3440	13

Table 36.—Gross Property, Plant, and Equipment of Affiliates, Industry of Affiliate by Country of UBO, 1988

[Millions of dollars]

	All countries	Canada	Europe						Latin America and Other Western Hemisphere	Africa	Middle East	Asia and Pacific			United States
			Total	Of which—								Total	Of which—		
				France	Germany, Federal Republic of	Netherlands	Switzerland	United Kingdom					Australia	Japan	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
All industries	418069	89976	224229	23129	31005	50912	15808	77803	10916	8412	15126	66271	10994	48603	3138
Petroleum	91916	5065	75972	5140	1159	(D)	133	(D)	(D)	6573	(D)	722	586	120	344
Petroleum & coal prods. manuf.	69697	(D)	66860	(D)	(D)	(D)	17	(D)	(D)	0	(D)	0	0	0	(D)
Other	22219	(D)	9112	(D)	(D)	979	115	1519	525	6573	(D)	722	586	120	(D)
Manufacturing	153867	39874	81857	11084	17931	7089	10395	25403	4797	1182	323	24352	3129	19141	1482
Food and kindred products	10701	1225	7821	804	124	554	(D)	2976	54	(D)	0	(D)	(D)	681	(D)
Beverages	2666	(D)	1346	413	35	(D)	4	808	(D)	0	0	893	(D)	270	0
Other	8035	(D)	6476	391	90	(D)	(D)	2168	(D)	(D)	0	(D)	(D)	411	(D)
Chemicals and allied products	59327	(D)	28722	(D)	10147	3411	4594	6057	780	(D)	27	(D)	9	1460	4
Industrial chemicals	46764	(D)	17512	(D)	8530	(D)	49	4851	(D)	(D)	0	(D)	0	975	1
Drugs	6768	(D)	5985	0	362	0	4283	971	(D)	0	(D)	205	4	201	0
Soap, cleaners, & toiletries	3638	61	3382	9	908	(D)	(D)	(D)	1	0	(D)	(D)	5	(D)	0
Other	2158	(D)	1843	(D)	348	(D)	(D)	(D)	61	0	0	(D)	(*)	(D)	3
Primary and fabricated metals	18616	(D)	5519	(D)	1062	126	570	1116	(D)	(D)	(D)	6802	(D)	4341	(D)
Primary metal industries	12330	2071	2163	(D)	369	(D)	(D)	599	1	(D)	0	6125	(D)	3747	(D)
Ferrous	6402	(D)	836	(D)	166	(D)	0	48	0	0	0	4083	(D)	3486	(D)
Nonferrous	5928	(D)	1327	(D)	203	0	(D)	552	1	(D)	0	2043	(D)	261	0
Fabricated metal products	6287	(D)	3356	(D)	693	(D)	(D)	517	(D)	(D)	(D)	677	(D)	594	1
Machinery	20331	1987	14083	1409	2976	(D)	465	4611	305	(D)	(D)	3620	73	3190	(D)
Machinery, except electrical	8156	322	5445	(D)	763	39	264	2925	(D)	(D)	(D)	2006	(D)	1685	12
Computer & office equip.	2253	(D)	1253	(D)	106	15	0	426	203	0	(D)	(D)	0	(D)	0
Other	5902	(D)	4192	20	657	24	264	2498	(D)	(D)	33	(D)	(D)	(D)	12
Electric & electronic equip.	12175	1665	8638	(D)	2213	(D)	201	1687	(D)	(D)	12	1614	(D)	1505	(D)
Audio, video, & comm.	4534	(D)	2941	(D)	3	(D)	(D)	(D)	0	1	(*)	(D)	(D)	171	(*)
Electronic components	3219	37	1910	(D)	(D)	26	31	(D)	(D)	(D)	11	1015	0	992	(D)
Other	4423	(D)	3787	122	(D)	(D)	(D)	1015	0	0	0	(D)	0	342	1
Other manufacturing	44891	5682	25712	4372	3622	(D)	(D)	10643	(D)	55	239	10952	565	9469	(D)
Textile products and apparel	2829	623	1468	99	243	36	92	844	(D)	0	(D)	680	(D)	593	0
Lumber and furniture	1070	80	801	(D)	128	0	88	386	0	0	2	187	(D)	34	0
Paper and allied products	5489	1870	2674	15	200	(D)	53	221	11	0	(D)	824	0	824	(D)
Printing and publishing	4378	1668	2249	(D)	862	(D)	(D)	417	(D)	0	0	317	(D)	199	(D)
Newspapers	594	593	1	0	1	0	0	(*)	(*)	0	0	(*)	0	(*)	0
Other	3784	1075	2248	(D)	862	(D)	(D)	417	(D)	0	0	317	(D)	199	(D)
Rubber products	3517	(D)	763	(D)	(D)	6	(D)	(D)	0	0	0	(D)	0	(D)	0
Misc. plastics products	2470	593	1132	151	297	(D)	44	184	14	0	0	732	5	(D)	0
Stone, clay, & glass products	13255	(D)	10307	2957	820	(D)	1372	4133	(D)	0	(D)	2412	375	1951	0
Transportation equipment	4711	255	1437	(D)	189	(D)	13	534	(D)	0	(D)	2966	0	2881	(*)
Motor vehicles & equipment	4020	(D)	(D)	(D)	116	0	13	182	0	0	0	2964	0	2879	0
Other	691	(D)	(D)	65	73	(D)	0	351	(D)	0	(D)	1	0	1	(*)
Instruments and related prods.	3502	44	1530	93	273	5	139	969	(D)	55	0	(D)	2	143	0
Other	3671	(D)	3351	197	(D)	2	(D)	(D)	(D)	0	0	141	0	140	0
Wholesale trade	26133	2387	13090	2464	3457	474	1052	4023	280	373	97	9901	152	9415	5
Motor vehicles and equipment	8674	11	3924	(D)	2077	5	1	(D)	5	(D)	(D)	4703	3	4621	0
Professional & commer. equip.	1485	7	414	10	198	(D)	100	28	(D)	0	(D)	1049	0	1040	1
Metals and minerals	2459	(D)	973	80	490	(D)	15	(D)	(D)	(D)	1	646	(D)	611	0
Electrical goods	3148	(D)	889	59	8	(D)	7	(D)	(D)	0	17	2224	0	2110	1
Machinery & equipment	1889	(D)	1030	37	265	(D)	185	188	127	(D)	33	522	4	486	1
Other durable goods	1354	69	1049	26	56	9	107	652	31	0	0	205	(D)	127	0
Groceries and related products	932	50	723	20	(D)	64	2	280	13	51	8	87	0	84	(*)
Farm product raw materials	1740	(*)	1540	(D)	7	6	(D)	13	3	(*)	0	196	0	195	0
Other nondurable goods	4453	1306	2549	175	(D)	(D)	(D)	1812	(D)	(D)	0	268	(D)	140	1
Retail trade	18642	7337	9168	1651	2241	2600	345	897	341	1	279	1513	736	399	2
General merchandise stores	7251	(D)	1514	(D)	(D)	(D)	(D)	(D)	(D)	0	(D)	760	(D)	(D)	0
Food stores	5634	871	4365	251	1989	(D)	0	(D)	(D)	0	1	(D)	(D)	(D)	0
Apparel and accessory stores	1569	(D)	782	(D)	15	(D)	(D)	78	(D)	0	(D)	20	1	15	1
Other	4187	1199	2507	1347	(D)	228	15	453	71	1	(D)	(D)	(D)	127	1
Finance, except banking	4639	218	1300	30	37	(D)	(D)	565	(D)	20	(D)	2674	(D)	2600	8
Insurance	4307	1444	2087	2	(D)	589	313	530	(D)	0	0	117	(D)	23	(D)
Real estate	63462	16559	20180	377	2715	4156	1187	9164	2481	(D)	8309	15191	1354	11235	(D)
Services	21701	1918	9724	501	(D)	339	995	(D)	941	(*)	3020	5960	560	4602	140
Hotels & other lodging places	7358	124	1445	277	22	218	127	608	(D)	0	643	4817	0	4194	(D)
Business services	3648	322	2270	39	21	72	(D)	1352	(D)	0	(D)	312	150	158	15
Computer & data proc. serv.	1114	76	977	19	(D)	40	(D)	252	(D)	0	(D)	25	10	12	9
Other business services	2535	246	1293	20	(D)	32	105	1100	(D)	0	(D)	287	140	146	6
Motion pictures	2677	(D)	1377	(*)	0	(D)	13	1321	22	0	0	(D)	(D)	17	(*)
Engineering & arch. services	2350	37	(D)	(D)	8	12	(D)	41	2	0	(D)	27	0	27	0
Account., resch. & mgmt. serv.	652	21	292	103	17	(*)	(D)	89	4	(*)	(D)	(D)	(*)	77	(D)
Health services	653	(D)	(D)	0	235	0	0	6	0	0	(D)	1	1	0	0
Other services	4363	145	3826	(D)	(D)	(D)	18	(D)	30	0	49	313	(D)	129	(*)
Other industries	33401	15174	10850	1879	1682	336	(D)	3780	834	(D)	644	5840	4429	1067	(D)
Agriculture, forestry, & fish.	2823	88	1659	341	460	25	359	227	588	(D)	314	(D)	0	(D)	0
Mining	10839	3218	4243	(D)	773	88	2	2088	0	2	(D)	(D)	3092	(D)	0
Coal	4933	227	2033	4	755	88	2	944	0	2	(D)	(D)	2434	0	0
Other	5906	2991	2210	(D)	19	0	0	1144	0	0	0	706	659	(D)	0
Construction	1778	24	1341	264	(D)	(D)	35	446	13	1	4	395	45	292	0
Transportation	14140	10068	1884	(D)	(D)	(D)	103	780	(D)	1	(D)	1921	1292	387	0
Communication & pub. utilities	3821	1776	1722	1012	(*)	0	(D)	239	(D)	0	1	(D)	0	(D)	(D)

Table 37.—Gross Property, Plant, and Equipment of Affiliates, Industry of Affiliate by Country of UBO, 1989

[Millions of dollars]

	All countries	Canada	Europe							Latin America and Other Western Hemisphere	Africa	Middle East	Asia and Pacific			United States
			Total	Of which—									Total	Of which—		
				France	Germany, Federal Republic of	Netherlands	Switzerland	United Kingdom						Australia	Japan	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		(9)	(10)	(11)	(12)	(13)	(14)	(15)
All industries	489461	99616	252431	25429	35324	55382	19021	89417		14488	5206	15318	98785	17514	70931	3617
Petroleum	92198	5809	75097	5846	510	(D)	116	(D)		1733	(D)	2578	3122	2836	225	(D)
Petroleum & coal prods. manuf.	72482	(D)	66556	(D)	66	(D)	(D)	(D)		1198	0	(D)	(D)	(D)	0	0
Other	19715	(D)	8541	(D)	444	1058	(D)	1090		535	(D)	(D)	(D)	(D)	225	(D)
Manufacturing	184393	43169	98326	13154	21441	8623	13435	30357		5185	(D)	(D)	35041	4799	25714	1100
Food and kindred products	14506	1644	10448	1105	192	524	(D)	4739		(D)	118	0	(D)	833	938	(D)
Beverages	2437	(D)	653	455	43	0	4	149		17	0	0	(D)	(D)	359	0
Other	12070	(D)	9794	650	149	524	(D)	4590		(D)	118	0	(D)	(D)	578	(D)
Chemicals and allied products	67890	(D)	33347	3133	11800	4681	5264	6200		880	0	30	(D)	11	1903	5
Industrial chemicals	53467	(D)	20613	(D)	10200	1694	(D)	3983		(D)	0	0	(D)	0	1316	1
Drugs	8662	21	7749	(D)	400	0	4954	2022		(D)	0	(D)	316	4	312	0
Soap, cleaners, & toiletries	4507	(D)	4227	17	1082	(D)	(D)	(D)		1	0	(D)	(D)	(D)	(D)	0
Other	1253	(D)	758	29	118	(D)	53	(D)		71	0	0	(D)	(D)	(D)	3
Primary and fabricated metals	25182	(D)	9304	2531	1479	222	1911	2353		(D)	(D)	(D)	9653	2150	6857	(D)
Primary metal industries	15885	(D)	3073	(D)	482	0	(D)	745		15	(D)	(D)	8734	(D)	6035	(D)
Ferrous	8551	431	864	(D)	249	0	0	(D)		5	0	(D)	6342	(D)	5617	(D)
Nonferrous	7334	(D)	2209	(D)	234	0	(D)	(D)		10	(D)	0	2392	(D)	418	0
Fabricated metal products	9297	525	6231	(D)	996	222	(D)	1607		(D)	(D)	(D)	919	(D)	822	0
Machinery	24896	2127	15510	1439	3683	(D)	657	4812		175	(D)	48	6687	475	4563	(D)
Machinery, except electrical	11609	410	6954	(D)	1166	41	632	3264		(D)	(D)	43	3981	(D)	2378	18
Computer & office equip.	2727	(D)	1552	(D)	114	13	10	668		(D)	0	4	1001	0	(D)	3
Other	8882	(D)	5403	53	1052	27	622	2596		(D)	(D)	39	2980	(D)	(D)	14
Electric & electronic equip.	13287	1717	8556	(D)	2517	(D)	25	1548		(D)	(D)	4	2706	(D)	2185	(D)
Audio, video, & comm.	4708	(D)	2865	(D)	4	(D)	(D)	(D)		0	1	4	(D)	(D)	271	(*)
Electronic components	4269	34	2391	(D)	(D)	(D)	(D)	(D)		(D)	(D)	0	1543	6	1508	(D)
Other	4309	(D)	3301	167	(D)	3	0	870		0	0	0	(D)	(D)	406	1
Other manufacturing	51920	5798	29716	4945	4287	(D)	(D)	12254		(D)	64	(D)	13651	1330	11453	(D)
Textile products and apparel	3568	815	1725	201	266	58	73	898		36	0	(D)	970	0	949	(D)
Lumber and furniture	1009	85	785	(D)	142	0	57	(D)		0	0	2	137	(D)	(D)	0
Paper and allied products	6166	1516	2950	17	220	(D)	(D)	264		32	0	(D)	1541	0	940	(D)
Printing and publishing	5337	1912	2946	(D)	(D)	(D)	(D)	742		(D)	0	0	400	(D)	(D)	(D)
Newspapers	705	702	1	0	1	0	0	(*)		1	0	0	(*)	0	(*)	0
Other	4632	1209	2944	(D)	(D)	(D)	(D)	742		(D)	0	0	400	(D)	(D)	(D)
Rubber products	3476	(D)	981	(D)	(D)	(D)	3	82		0	0	0	(D)	0	2205	0
Misc. plastics products	2626	645	1505	187	404	43	37	418		55	0	0	422	6	405	0
Stone, clay, & glass products	15280	(D)	10587	3152	901	(D)	1489	3956		(D)	0	0	3767	1163	2512	0
Transportation equipment	6239	281	2426	(D)	310	(D)	16	1168		(*)	0	5	3527	0	3527	(*)
Motor vehicles & equipment	5031	251	1256	(D)	233	0	16	287		0	0	0	3525	0	3525	0
Other	1207	31	1170	157	77	(D)	0	881		(*)	0	5	2	0	2	(*)
Instruments and related prods.	4025	70	1981	167	357	6	318	1029		(D)	64	0	(D)	2	374	0
Other	4193	(D)	3831	232	78	3	70	(D)		(D)	0	0	216	0	215	0
Wholesale trade	28963	2457	13089	2635	4085	692	1081	2855		261	388	81	12651	217	11862	35
Motor vehicles and equipment	10261	63	4280	(D)	2254	5	0	(D)		6	0	(D)	5858	(D)	5729	(D)
Professional & commer. equip.	2102	3	669	10	157	59	156	157		(D)	0	(D)	1415	0	1402	1
Metals and minerals	2672	(D)	1373	90	675	(D)	3	(D)		19	(D)	1	762	9	685	0
Electrical goods	3515	(D)	535	33	(D)	3	9	(D)		(D)	0	14	2934	0	2777	0
Machinery & equipment	1932	172	973	25	318	59	136	176		132	(D)	23	611	4	569	(D)
Other durable goods	1417	45	1079	81	85	11	(D)	575		22	0	0	272	(D)	215	8
Groceries and related products	1199	(D)	953	15	(D)	139	6	388		17	(D)	8	99	0	97	(*)
Farm product raw materials	1780	1	1546	(D)	11	(D)	(D)	14		4	0	0	230	0	229	0
Other nondurable goods	4084	1595	1680	137	74	311	14	857		(D)	(D)	0	471	169	159	2
Retail trade	20775	6975	9412	514	2599	(D)	384	1132		2135	1	108	2137	1212	673	7
General merchandise stores	7229	(D)	1828	(D)	(D)	(D)	(D)	(D)		(D)	0	0	(D)	(D)	55	0
Food stores	6449	954	5060	202	2332	(D)	0	(D)		(D)	0	(D)	418	(D)	(D)	0
Apparel and accessory stores	1944	370	1064	(D)	18	(D)	(D)	253		(D)	0	(D)	256	(D)	(D)	1
Other	5153	(D)	1460	152	(D)	211	17	456		(D)	1	73	(D)	(D)	203	6
Finance, except banking	5568	296	1587	39	93	(D)	(D)	619		121	(*)	334	3198	(D)	3025	32
Insurance	4713	1229	2436	2	(D)	688	472	576		40	3	(D)	115	(D)	33	(D)
Real estate	76079	20848	21231	376	2832	5281	1513	8783		2922	293	8052	22095	788	18870	637
Services	29631	1987	12814	952	(D)	582	856	(D)		1325	(D)	2963	10257	634	8295	(D)
Hotels & other lodging places	11532	137	1663	325	26	66	141	784		(D)	(D)	893	8410	0	7252	(D)
Business services	4661	192	2911	433	31	501	(D)	1324		(D)	0	(D)	380	198	178	(D)
Computer & data proc. serv.	1721	65	1455	149	28	498	(D)	281		159	0	5	34	12	18	2
Other business services	2940	127	1456	283	4	3	85	1043		(D)	0	(D)	346	186	160	(D)
Motion pictures	3092	947	1697	1	0	1	15	1666		(D)	0	0	(D)	(D)	20	(*)
Engineering & arch. services	2429	(D)	(D)	(D)	29	6	(D)	139		15	0	(D)	(D)	0	19	8
Account., resch. & mgmt. serv.	700	31	552	(D)	1	8	51	(D)		5	(*)	0	112	4	183	0
Health services	673	(D)	(D)	0	(D)	0	0	22		0	0	0	1	1	0	8
Other services	6544	201	5335	(D)	(D)	0	22	1103		40	0	56	912	(D)	723	(*)
Other industries	47141	16846	18438	1910	1435	328	(D)	12089		767	66	686	10168	6999	2233	178
Agriculture, forestry, & fish.	3399	119	1823	147	477	144	443	237		544	62	318	534	8	465	0
Mining	16085	4600	9998	(D)	381	59	2	8926		0	2	(D)	1198	474	(D)	(D)
Coal	1978	233	1480	4	377	59	2	825		0	2	(D)	3	3	0	(D)
Other	14106	4367	8518	(D)	4	0	0	8101		0	0	0	1195	471	(D)	27
Construction	2803	274	1905	349	275	90	42	807		(D)	1	(D)	(D)	(D)	498	0
Transportation	20380	10224	2085	(D)	(D)	35	117	904		149	1	(D)	7690	6359	(D)	(D)
Communication & pub. utilities	4475	1629	2628	1163	(D)	0	(D)	1215		(D)	0	2	(D)	(D)	2	15

Table 38.—Gross Property, Plant, and Equipment of Affiliates, Industry of Affiliate by Country of UBO, 1990

[Millions of dollars]

	All countries	Canada	Europe						Latin America and Other Western Hemisphere	Africa	Middle East	Asia and Pacific			United States
			Total	Of which—								Total	Of which—		
				France	Germany	Netherlands	Switzerland	United Kingdom					Australia	Japan	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
All industries	572342	106179	290914	32761	41728	57802	21743	103115	15875	6812	14762	131050	21514	96208	6748
Petroleum	103266	6241	77434	5886	560	(D)	142	(D)	5280	4030	(D)	5302	4152	489	(D)
Petroleum & coal prods. manuf.	75939	(D)	68983	(D)	101	(D)	(D)	(D)	801	0	(D)	(D)	(D)	7	0
Other	27327	(D)	8451	(D)	460	1059	(D)	869	4479	4030	1792	(D)	(D)	482	(D)
Manufacturing	219741	48557	116914	17354	24044	9488	14927	37956	3792	1176	240	48800	6173	37328	262
Food and kindred products	16432	1868	11754	1113	187	650	(D)	5372	(D)	115	0	(D)	689	1363	(D)
Beverages	2522	(D)	671	464	53	0	4	147	17	0	0	1058	(D)	417	(D)
Other	13910	(D)	11082	649	134	650	(D)	5225	(D)	115	0	(D)	(D)	946	0
Chemicals and allied products	85914	(D)	46656	4035	12986	5213	6124	15513	727	0	30	(D)	23	3392	10
Industrial chemicals	66724	(D)	29782	(D)	11118	1880	112	11131	3	0	0	(D)	0	2366	1
Drugs	11161	11	9964	(D)	477	0	5755	2944	(D)	0	(D)	517	4	513	0
Soap, cleaners, & toiletries	5367	(D)	5015	18	1256	(D)	(D)	(D)	1	0	(D)	271	(D)	265	0
Other	2662	(D)	1895	83	135	(D)	(D)	(D)	(D)	0	0	532	(D)	248	8
Primary and fabricated metals	31694	(D)	9759	3201	1690	332	1007	2400	(D)	(D)	15	15555	2407	12370	0
Primary metal industries	22757	(D)	3866	(D)	563	0	755	784	23	(D)	0	14417	(D)	11423	0
Ferrous	14509	(D)	1438	584	280	0	(D)	(D)	(D)	0	0	11593	(D)	10823	0
Nonferrous	8248	(D)	2429	(D)	283	0	(D)	(D)	(D)	(D)	0	2824	(D)	600	0
Fabricated metal products	8937	(D)	5893	(D)	1126	332	252	1616	(D)	(D)	15	1138	(D)	947	0
Machinery	28330	2174	17086	1767	4308	(D)	1712	3810	172	(D)	(D)	8768	542	6643	25
Machinery, except electrical	11977	362	6198	840	1364	58	(D)	1992	(D)	(D)	(D)	5160	(D)	3697	14
Computer & office equip.	3795	(D)	1617	(D)	82	20	(D)	647	(D)	0	(D)	2037	0	1990	0
Other	8182	(D)	4581	(D)	1282	37	640	1345	(D)	(D)	26	3123	(D)	1707	14
Electric & electronic equip.	16353	1812	10888	928	2944	(D)	(D)	1817	(D)	(D)	14	3609	(D)	2946	12
Audio, video, & comm.	5394	(D)	3437	(D)	(D)	(D)	(D)	(D)	0	1	(D)	(D)	132	303	(*)
Electronic components	5065	48	2903	(D)	1776	187	20	(D)	(D)	(D)	(D)	2084	6	1954	11
Other	5894	(D)	4548	249	(D)	4	(D)	929	0	0	0	(D)	(D)	689	1
Other manufacturing	57371	7288	31658	7238	4873	(D)	(D)	10860	(D)	61	(D)	16807	2512	13559	(D)
Textile products and apparel	3608	645	1516	121	305	31	122	693	188	0	(D)	1232	0	1209	(D)
Lumber and furniture	1399	(D)	981	(D)	150	0	11	534	0	0	2	(D)	(D)	94	0
Paper and allied products	8554	2302	4048	16	275	(D)	(D)	1005	14	0	(D)	2041	(D)	1216	(D)
Printing and publishing	6141	2817	2744	(D)	(D)	(D)	(D)	(D)	(D)	0	0	461	(D)	(D)	(D)
Newspapers	(D)	(D)	(D)	0	1	0	0	(D)	1	0	0	(*)	0	(*)	0
Other	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1083	(D)	0	0	461	(D)	(D)	(D)
Rubber products	5512	(D)	2258	(D)	(D)	(D)	3	(D)	0	0	0	(D)	0	(D)	0
Misc. plastics products	2760	244	1887	354	422	42	38	583	60	0	0	569	5	553	0
Stone, clay, & glass products	16383	(D)	11515	4060	998	(D)	1569	3801	(D)	0	0	3948	1827	2110	0
Transportation equipment	7492	657	2522	804	417	(D)	15	891	(*)	0	6	4307	0	4305	(*)
Motor vehicles & equipment	6207	617	1284	(D)	340	0	15	161	0	0	0	4305	0	4303	0
Other	1286	40	1238	(D)	77	(D)	0	730	(*)	0	6	2	0	2	(*)
Instruments and related prods.	3123	69	2487	266	441	9	357	1103	(*)	61	0	506	2	436	0
Other	2400	68	1699	232	64	(*)	86	1079	(D)	0	0	512	(D)	424	(D)
Wholesale trade	38283	2784	17742	3201	7560	857	1230	3058	442	411	69	16793	204	15881	42
Motor vehicles and equipment	15635	62	7640	(D)	5382	5	0	(D)	7	0	(D)	7871	(D)	7760	(D)
Professional & commer. equip.	2011	3	737	11	180	63	229	223	3	0	(D)	1254	0	1205	(D)
Metals and minerals	3181	(D)	1757	163	654	(D)	1	444	17	(D)	0	835	9	759	0
Electrical goods	5246	(D)	385	44	(D)	3	23	(D)	(D)	0	(*)	4830	0	4647	0
Machinery & equipment	2122	222	927	15	263	56	147	214	153	(D)	27	770	4	715	(D)
Other durable goods	2102	72	1497	101	91	88	80	900	176	(D)	0	336	25	256	(D)
Groceries and related products	1574	(D)	1252	(D)	(D)	74	12	362	19	(D)	8	142	0	97	(*)
Farm product raw materials	1905	1	1709	864	11	(D)	(D)	15	3	0	0	192	0	191	0
Other nondurable goods	4506	1751	1839	222	259	421	(D)	535	(D)	(D)	(*)	563	(D)	251	2
Retail trade	22420	7249	11959	598	4443	(D)	(D)	(D)	741	1	127	2334	(D)	988	9
General merchandise stores	6418	(D)	826	(D)	(D)	(D)	(D)	106	(D)	0	0	1232	(D)	312	0
Food stores	8101	1061	6784	235	4118	(D)	0	(D)	(D)	0	2	(D)	(D)	(D)	0
Apparel and accessory stores	3135	486	2111	(D)	21	(D)	(D)	1341	(D)	0	0	(D)	1	(D)	1
Other	4766	(D)	2237	191	(D)	281	16	940	(D)	1	126	653	(D)	426	8
Finance, except banking	3933	296	1805	48	108	(D)	(D)	880	116	10	7	1663	1	1415	37
Insurance	9272	1458	2824	3	150	702	642	693	35	0	(D)	117	(D)	32	(D)
Real estate	85630	22566	22363	419	2875	5875	1808	9004	3063	334	8110	28598	(D)	24564	596
Services	35877	2192	14964	3005	296	230	1323	7090	1503	(D)	1176	15766	784	12319	(D)
Hotels & other lodging places	17993	157	4000	2162	25	48	161	1283	(D)	(D)	958	12424	0	9990	(D)
Business services	5888	366	3804	465	38	153	(D)	2109	(D)	(*)	94	380	217	157	(D)
Computer & data proc. serv.	2515	129	2146	138	31	151	(D)	871	193	0	9	36	4	26	2
Other business services	3374	237	1658	327	7	3	41	1238	(D)	(*)	85	344	213	131	(D)
Motion pictures	4183	(D)	(D)	1	0	1	15	1813	27	0	0	(D)	(D)	(D)	(*)
Engineering & arch. services	927	45	852	184	(D)	19	(D)	(D)	16	0	1	12	0	12	0
Account., resch. & mgmt. serv.	459	36	271	(D)	3	9	60	67	6	(*)	0	146	12	130	0
Health services	742	(D)	(D)	0	(D)	0	0	(D)	0	0	0	(D)	1	(D)	0
Other services	5684	281	3961	(D)	5	0	33	1396	30	0	123	1290	(D)	1050	(*)
Other industries	53920	14834	24910	2247	1692	1222	653	13559	905	(D)	(D)	11676	8080	3193	159
Agriculture, forestry, & fish.	3773	163	2009	182	488	184	460	236	669	63	331	538	0	464	0
Mining	18885	4555	11484	324	(D)	(D)	(D)	9253	(D)	(D)	(D)	1751	674	(D)	(D)
Coal	2185	226	1668	4	(D)	58	(D)	854	(D)	(D)	(D)	3	3	0	0
Other	16700	4328	9816	320	4	(D)	0	8399	(D)	(D)	0	1748	671	(D)	(D)
Construction	3877	332	2564	339	300	101	30	1401	(D)	1	9	(D)	(D)	762	0
Transportation	21880	7870	5775	175	(D)	(D)	134	1056	68	1	(D)	8001	7196	635	(D)
Communication & pub. utilities	5505	1915	3079	1227	(D)	0	(D)	1613	(D)	0	2	(D)	(D)	(D)	0

Table 39.--Sales by Affiliates, by Industry of Affiliate, 1980-86

[Millions of dollars]

	1980	1981	1982	1983	1984	1985	1986
All industries	412390	510218	518087	536640	593571	632983	672004
Mining	3388	4924	5982	4834	6073	6584	5627
Petroleum	56052	69668	72599	76502	71820	76085	66225
Manufacturing	98162	139439	141529	158115	176395	185895	190619
Food and kindred products	11956	14292	14847	16609	18319	19447	21666
Chemicals and allied products	28204	54661	54255	59301	61232	62401	60120
Industrial chemicals	14541	39656	39824	43331	42524	41708	41104
Drugs	2466	2862	3008	4453	5162	5977	9664
Soap, cleaners, & toiletries	4007	4166	4659	4467	5372	5810	7569
Agricultural chemicals	5736	6106	5676	6017	6987	7408	604
Other	1453	1871	1087	1034	1187	1498	1179
Primary and fabricated metals	12911	14113	13472	19365	23534	24472	25103
Primary metal industries	10113	11252	10361	13509	17588	18233	16283
Fabricated metal products	2798	2860	3111	5856	5947	6239	8819
Machinery	21066	24945	25789	26838	31594	32950	34435
Machinery, except electrical	9089	12315	12632	12175	13433	13028	10857
Electric & electronic equip.	11977	12630	13157	14664	18160	19922	23579
Other manufacturing	24025	31429	33166	36002	41715	46624	49295
Textile products and apparel	1488	2431	2195	2239	2596	2887	2614
Lumber and furniture	696	544	585	823	1091	1157	1779
Paper and allied products	3746	6344	6421	6637	6230	6456	5170
Printing and publishing	2892	3496	3754	4634	6247	7256	8627
Rubber and plastics products	1625	2127	2179	2515	2289	2306	2885
Stone, clay & glass products	4186	4616	4971	6281	7992	9333	11602
Transportation equipment	6390	8067	9166	8610	10535	10850	10034
Instruments & related prods.	1624	2010	1963	1981	2421	3023	4493
Other	1378	1794	1931	2281	2315	3358	2090
Wholesale trade	197674	222510	209821	205178	228220	240729	261954
Motor vehicles and equipment	33345	39289	42336	45733	55715	63737	77067
Metals and minerals	54165	63121	56177	53954	51540	53568	55910
Other durable goods	60543	63946	55970	51632	57771	59208	64015
Farm product raw materials	36772	41701	40121	36216	41516	41583	36452
Other nondurable goods	12850	14453	15217	17643	21678	22632	28511
Retail trade	23475	27549	31843	32182	35835	38276	46453
Food strs.,eat. & drink.places	16036	18683	18758	17894	19846	21173	20618
Retail trade, nec	7440	8865	13086	14287	15990	17103	25836
Finance, except banking	4755	5535	8202	11189	21289	25139	31095
Insurance	14197	20296	23603	21875	21623	23942	32281
Real estate	3933	5637	7075	9055	11797	12186	11581
Other industries	10755	14660	17433	17712	20518	24147	26170
Agriculture	670	736	811	815	947	939	998
Forestry and fishing	26	29	37	48	83	90	108
Construction	4604	6379	7459	5871	5983	6334	6456
Transportation	1982	2707	3250	3523	3909	3974	5061
Communication & pub. utilities	142	145	395	597	689	976	1583
Services	3332	4663	5481	6857	8906	11835	11963

Table 40.--Sales by Affiliates, by Industry of Affiliate, 1987-90

[Millions of dollars]

	1987	1988	1989	1990
All industries	744617	886407	1056645	1168490
Petroleum	71993	74254	93325	116785
Petroleum & coal prods. manuf.	46570	49603	63085	71722
Other	25422	24651	30241	45064
Manufacturing	225079	280716	353063	389115
Food and kindred products	22862	31160	42633	44986
Beverages	5794	8092	5767	6163
Other	17068	23068	36866	38823
Chemicals and allied products	72105	78835	92734	109394
Industrial chemicals	48398	52036	59844	68625
Drugs	11344	13530	17516	21716
Soap, cleaners, & toiletries	9144	9175	12900	14630
Other	3219	4094	2474	4423
Primary and fabricated metals	26658	36765	51727	52368
Primary metal industries	18032	20944	26499	32319
Ferrous	7509	8468	10751	16251
Nonferrous	10524	12476	15748	16068
Fabricated metal products	8626	15821	25228	20050
Machinery	40343	56279	71575	79607
Machinery, except electrical	13766	22894	35357	35452
Computer & office equip.	4222	4974	7533	11571
Other	9544	17920	27823	23881
Electric & electronic equip.	26577	33386	36218	44154
Audio, video, & comm.	12768	14159	14774	16412
Electronic components	4332	4999	7242	7714
Other	9477	14227	14201	20029
Other manufacturing	63111	77676	94395	102761
Textile products and apparel	3301	4677	5616	5794
Lumber and furniture	1796	1945	1684	2774
Paper and allied products	6699	8008	7853	9160
Printing and publishing	8303	12233	14557	17099
Newspapers	1428	1554	1621	(D)
Other	6875	10680	12937	(D)
Rubber products	3920	6650	7554	9771
Misc. plastics products	2677	4138	4618	4778
Stone, clay, & glass products	13377	14152	16820	17549
Transportation equipment	8384	9411	16374	19687
Motor vehicles & equipment	5503	6756	12629	15600
Other	2881	2655	3745	4087
Instruments and related prods.	6780	7419	8602	8416
Other	7875	9042	10716	7732
Wholesale trade	278843	320216	347258	381462
Motor vehicles and equipment	85451	83826	86615	94338
Professional & commer. equip.	10520	14626	17984	15903
Metals and minerals	58287	62497	64753	79362
Electrical goods	22727	26538	31441	34980
Machinery & equipment	9837	31690	35322	36741
Other durable goods	29733	23604	24022	28242
Groceries and related products	13953	15699	15800	20006
Farm product raw materials	27413	36263	46938	45863
Other nondurable goods	20923	25472	24383	26027
Retail trade	48433	60601	72092	76074
General merchandise stores	7802	13999	15957	13255
Food stores	24312	27177	30218	36841
Apparel and accessory stores	5190	5261	6759	7826
Other	11130	14164	19159	18153
Finance, except banking	27008	34875	44014	29087
Insurance	39260	48856	54356	63377
Real estate	10907	13015	14909	17412
Services	20086	22829	30959	37930
Hotels & other lodging places	2289	3108	3927	5327
Business services	9724	8638	11519	12749
Computer & data proc. serv.	1589	1972	3207	3914
Other business services	8136	6667	8312	8835
Motion pictures	2599	3237	5206	9163
Engineering & arch. services	2246	2367	3704	3897
Account., resch. & mgmt. serv.	1113	1007	1575	1006
Health services	915	1163	1267	1638
Other services	1200	3308	3760	4150
Other industries	23009	31044	46669	57248
Agriculture, forestry, & fish.	963	1378	2199	2146
Mining	5757	6511	8505	10031
Coal	3181	3168	1493	1728
Other	2576	3342	7012	8303
Construction	7860	9077	13097	13793
Transportation	6491	11809	19800	27254
Communication & pub. utilities	1938	2269	3069	4024

Table 41.—Sales by Affiliates, Industry of Affiliate by Country of UBO, 1988

[Millions of dollars]

	All countries	Canada	Europe						Latin America and Other Western Hemi-sphere	Africa	Middle East	Asia and Pacific			Unitec State
			Total	Of which—								Total	Of which—		
				France	Germany, Federal Republic of	Nether-lands	Switzer-land	United Kingdom					Austral-ia	Japan	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
All industries	886407	109099	460813	59675	82284	59235	46565	142953	25640	6536	8021	263160	14610	231915	13138
Petroleum	74254	3659	53394	(D)	1662	(D)	(D)	16630	10173	2058	(D)	2251	(D)	1475	(D)
Petroleum & coal prods. manuf. .	49603	(D)	40865	(D)	(D)	(D)	90	(D)	(D)	0	(*)	0	0	0	(D)
Other	24651	(D)	12530	(D)	(D)	586	(D)	(D)	(D)	2058	(D)	2251	(D)	1475	(D)
Manufacturing	280716	49659	182280	25334	36992	16810	21744	57767	6778	2450	806	36677	5361	27052	2065
Food and kindred products	31160	3916	23143	2053	292	2168	(D)	8517	(D)	253	0	(D)	1503	1344	(D)
Beverages	8092	(D)	4836	(D)	73	(D)	1	3524	1	0	0	(D)	(D)	485	0
Other	23068	(D)	18307	(D)	220	(D)	(D)	4993	(D)	253	0	(D)	(D)	859	(D)
Chemicals and allied products ..	78835	(D)	51107	2613	17843	(D)	8393	11203	1220	280	(D)	(D)	33	3255	3
Industrial chemicals	52036	(D)	26877	(D)	14827	(D)	100	6770	(D)	280	0	(D)	0	(D)	3
Drugs	13530	(D)	12105	0	600	1	7242	3504	(D)	0	(D)	361	1	360	0
Soap, cleaners, & toiletries .	9175	(D)	8630	(D)	1961	(D)	(D)	270	1	0	(D)	308	(D)	286	0
Other	4094	97	3494	(D)	455	(D)	(D)	659	124	0	0	379	(D)	(D)	(*)
Primary and fabricated metals ..	36765	7552	16441	(D)	3354	325	1308	3112	(D)	(D)	(D)	7669	2603	4264	(D)
Primary metal industries	20944	5459	5456	(D)	762	(D)	(D)	1912	6	(D)	0	6882	(D)	3678	(D)
Ferrous	8468	(D)	1839	(D)	300	(D)	0	126	0	0	0	(D)	(D)	3534	(D)
Nonferrous	12476	(D)	3617	(D)	462	0	(D)	1786	6	(D)	0	(D)	(D)	144	0
Fabricated metal products	15821	2093	10985	(D)	2592	(D)	(D)	1200	(D)	(D)	(D)	786	(D)	586	3
Machinery	56279	5305	40418	4946	6929	(D)	2331	13324	695	(D)	214	9254	175	8175	(D)
Machinery, except electrical .	22894	1002	15869	(D)	2163	129	(D)	8926	689	(D)	187	4993	(D)	4370	(D)
Computer & office equip. ...	4974	(D)	2369	(D)	272	41	0	973	(D)	0	47	1868	0	1545	0
Other	17920	(D)	13500	98	1891	88	(D)	7953	(D)	(D)	140	3125	(D)	2825	(D)
Electric & electronic equip. .	33386	4303	24549	(D)	4766	(D)	(D)	4398	6	(D)	27	4261	(D)	3805	(D)
Audio, video, & comm.	14159	(D)	9371	(D)	(D)	(D)	(D)	594	0	(*)	4	(D)	(D)	793	3
Electronic components	4999	163	2554	(D)	(D)	34	72	579	6	(D)	23	2019	0	1954	(D)
Other	14227	(D)	12623	311	(D)	(D)	(D)	3225	0	0	0	(D)	0	1059	2
Other manufacturing	77676	(D)	51172	(D)	8573	1170	(D)	21610	2883	90	435	(D)	1047	10014	(D)
Textile products and apparel .	4677	693	3057	(D)	371	72	271	1722	(D)	0	(D)	701	(D)	432	0
Lumber and furniture	1945	166	1154	87	439	0	60	455	0	0	(*)	624	(D)	110	0
Paper and allied products	8008	1656	5276	59	315	(D)	153	518	25	0	(D)	853	0	853	(D)
Printing and publishing	12233	4215	6767	(D)	2586	(D)	(D)	1488	(D)	0	2	902	(D)	488	(D)
Newspapers	1554	1533	5	0	3	0	0	1	13	0	2	1	0	1	0
Other	10680	2682	6763	(D)	2584	(D)	(D)	1486	(D)	0	0	900	(D)	487	(D)
Rubber products	6650	(D)	2333	(D)	(D)	12	(D)	(D)	0	0	0	(D)	0	(D)	0
Misc. plastics products	4138	1219	1876	321	480	(D)	90	(D)	26	0	0	1018	9	348	0
Stone, clay, & glass products	14152	270	11253	3693	1125	177	893	4423	(D)	0	(D)	1992	381	1581	0
Transportation equipment	9411	(D)	5844	2855	627	31	42	1843	2	0	(D)	2780	0	2480	5
Motor vehicles & equipment .	6756	(D)	3679	(D)	447	0	42	848	0	0	0	(D)	0	2475	0
Other	2655	(D)	2164	(D)	180	31	0	996	2	0	(D)	(D)	0	5	5
Instruments and related prods.	7419	(D)	5375	195	967	7	442	3647	(D)	89	0	333	4	(D)	0
Other	9042	207	8237	384	(D)	25	(D)	(D)	347	(*)	0	251	0	239	0
Wholesale trade	320216	10234	116108	24852	24535	(D)	8251	36035	3960	1786	830	186835	824	177641	463
Motor vehicles and equipment ...	83826	94	21066	(D)	11554	5	(D)	1767	(D)	53	(D)	62353	(D)	59590	0
Professional & commer. equip. ..	14626	68	2290	86	664	103	632	(D)	(D)	0	(D)	12185	0	11935	(*)
Metals and minerals	62497	1754	13755	2683	5009	(D)	1471	795	(D)	522	(D)	45474	(D)	43786	0
Electrical goods	26538	91	3854	342	162	178	120	2686	86	0	128	22366	0	20488	13
Machinery & equipment	31690	659	6780	535	1693	(D)	1138	939	451	(D)	108	23495	3	23487	(D)
Other durable goods	23604	444	18958	271	479	(D)	837	16078	231	0	0	3971	(D)	3491	0
Groceries and related products .	15699	746	11729	368	(D)	638	(D)	5685	879	(D)	248	2013	0	1954	(D)
Farm product raw materials	36263	17	24129	(D)	(D)	179	(D)	(D)	420	37	0	11661	11	11295	0
Other nondurable goods	25472	6362	13548	1554	1049	1195	189	7131	903	(D)	0	3317	(D)	1617	(D)
Retail trade	60601	17748	37319	1853	11719	8876	1037	5688	1606	(D)	(D)	3301	1456	679	(D)
General merchandise stores	13999	(D)	3659	94	(D)	(D)	(D)	259	(D)	0	(D)	1341	(D)	168	0
Food stores	27177	(D)	23066	1279	9991	(D)	0	(D)	(D)	0	(*)	(D)	(D)	(D)	0
Apparel and accessory stores ...	5261	2139	2654	65	96	(D)	(D)	(D)	(D)	0	(D)	129	5	82	7
Other	14164	3797	7941	414	(D)	1166	58	3666	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Finance, except banking	34875	1021	14103	(D)	463	147	(D)	4107	591	156	1221	17677	(D)	16959	106
Insurance	48856	11911	26946	143	2096	5958	4270	9857	237	0	0	(D)	(D)	344	(D)
Real estate	13015	5018	3896	178	380	794	180	1919	341	51	1217	(D)	350	1699	(D)
Services	22829	1577	13235	794	995	667	1603	6481	1428	3	1721	4751	2225	2151	113
Hotels & other lodging places ..	3108	123	1033	127	11	133	50	601	(D)	0	198	1601	0	1415	(D)
Business services	8638	(D)	6325	310	(D)	262	1272	4048	(D)	0	(D)	745	(D)	418	26
Computer & data proc. serv. ..	1972	123	1642	215	(D)	102	(D)	502	108	0	(*)	75	30	28	25
Other business services	6667	(D)	4683	96	17	160	(D)	3546	(D)	0	(D)	670	(D)	390	2
Motion pictures	3237	(D)	827	(*)	5	(D)	0	520	54	0	0	(D)	(D)	(D)	5
Engineering & arch. services ...	2367	(D)	1257	143	118	81	(D)	117	3	0	(D)	(D)	0	104	4
Account., resch. & mgmt. serv. .	1007	22	641	64	115	2	(D)	342	6	3	(D)	134	(*)	114	(D)
Health services	1163	(D)	370	0	354	0	0	16	0	0	(D)	(*)	(*)	0	0
Other services	3308	164	2781	149	(D)	(D)	7	836	31	0	70	259	35	(D)	3
Other industries	31044	8273	13532	1879	3442	371	939	4468	525	(D)	(D)	8241	3562	3915	(D)
Agriculture, forestry, & fish. .	1378	36	693	75	150	14	83	197	262	1	30	356	0	270	0
Mining	6511	2172	2907	(D)	930	31	2	1209	0	(*)	(D)	(D)	1239	(D)	0
Coal	3168	418	1639	(*)	(D)	31	2	553	0	(*)	(D)	(D)	980	0	0
Other	3342	1754	1268	(D)	(D)	0	0	656	0	0	0	320	259	(D)	0
Construction	9077	474	5460	1072	2087	102	228	1168	(D)	(D)	(D)	3015	272	2351	0
Transportation	11809	4422	3464	247	273	225	255	1609	240	8	171	3505	2051	1167	0
Communication & pub. utilities .	2269	1168	1008	(D)	2	0	371	285	(D)	0	1	(D)	0	(D)	(D)

Table 42.--Sales by Affiliates, Industry of Affiliate by Country of UBO, 1989

[Millions of dollars]

	All countries	Canada	Europe						Latin America and Other Western Hemi-sphere	Africa	Middle East	Asia and Pacific			Unitec States
			Total	Of which—								Total	Of which—		
				France	Germany, Federal Republic of	Nether-lands	Switzer-land	United Kingdom					Austral-ia	Japan	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
All industries	1056645	117369	548346	77417	93691	68744	60229	171914	33119	5638	17941	319909	26063	271536	14323
Petroleum	93325	4309	58803	5818	1739	(D)	(D)	18965	12175	1549	11150	3721	(D)	995	1618
Petroleum & coal prods. manuf. .	63085	(D)	45329	(D)	102	(D)	(D)	(D)	(D)	0	(D)	(D)	(D)	0	0
Other	30241	(D)	13473	(D)	1637	707	(D)	(D)	(D)	1549	(D)	(D)	(D)	995	1618
Manufacturing	353063	53870	229767	29585	43595	22014	32518	75584	7778	2255	1091	56384	6639	42544	1917
Food and kindred products	42633	5571	31692	2916	433	2082	(D)	14211	(D)	246	0	4633	1179	1638	(D)
Beverages	5767	(D)	2130	(D)	100	0	1	1191	12	0	0	(D)	(D)	477	0
Other	36866	(D)	29562	(D)	333	2082	(D)	13020	(D)	246	0	(D)	(D)	1162	(D)
Chemicals and allied products ..	92734	(D)	62897	3595	21150	(D)	10109	13217	(D)	0	107	4334	34	3592	3
Industrial chemicals	59844	(D)	32854	(D)	17569	(D)	(D)	6835	(D)	0	0	(D)	0	2447	3
Drugs	17516	(D)	15989	(D)	623	1	8960	5664	(D)	0	(D)	(D)	1	506	0
Soap, cleaners, & toiletries .	12900	(D)	12154	133	2622	(D)	(D)	(D)	2	0	(D)	481	(D)	460	0
Other	2474	136	1901	105	337	(D)	115	(D)	149	0	0	289	(D)	179	(*)
Primary and fabricated metals ..	51727	7294	27965	7398	4027	503	(D)	5812	(D)	(D)	(D)	11132	2825	7529	(D)
Primary metal industries	26499	5907	7535	(D)	1057	0	1804	2231	25	(D)	(D)	9850	(D)	6498	(D)
Ferrous	10751	(D)	1709	(D)	497	0	0	116	(D)	0	(D)	6711	(D)	5810	(D)
Nonferrous	15748	(D)	5826	(D)	560	0	1804	2115	(D)	(D)	0	3139	(D)	687	0
Fabricated metal products	25228	1388	20431	(D)	2970	503	(D)	3582	(D)	(D)	(D)	1283	(D)	1031	0
Machinery	71575	6468	47898	6004	8690	(D)	2346	15611	401	(D)	262	16040	1050	11703	(D)
Machinery, except electrical .	35357	1141	23234	2408	3054	134	2253	11554	394	(D)	236	10178	(D)	7112	(D)
Computer & office equip. ...	7533	(D)	4711	(D)	291	29	67	2029	(D)	0	56	2379	0	1917	9
Other	27823	(D)	18524	(D)	2763	105	2186	9524	(D)	(D)	179	7799	(D)	5195	(D)
Electric & electronic equip. .	36218	5327	24664	3597	5636	(D)	93	4057	7	(D)	26	5862	(D)	4591	(D)
Audio, video, & comm.	14774	(D)	9535	(D)	(D)	(D)	(D)	523	0	(*)	26	(D)	(D)	812	4
Electronic components	7242	173	3723	(D)	1670	(D)	(D)	940	7	(D)	0	3014	15	2901	(D)
Other	14201	(D)	11406	446	(D)	52	0	2595	0	0	0	(D)	(D)	877	2
Other manufacturing	94395	(D)	59315	9671	9294	2043	3455	26734	3800	108	(D)	20245	1552	18082	(D)
Textile products and apparel .	5616	1029	3649	395	563	109	188	1951	154	0	(D)	719	0	686	(D)
Lumber and furniture	1684	198	1156	92	445	0	67	434	0	0	(*)	330	(D)	187	0
Paper and allied products	7853	1345	5058	52	312	(D)	(D)	389	22	0	(D)	1191	0	924	(D)
Printing and publishing	14557	4363	8970	(D)	(D)	(D)	(D)	3076	(D)	0	2	1008	(D)	(D)	(D)
Newspapers	1621	1601	6	0	3	0	0	2	10	0	2	2	0	2	0
Other	12937	2762	8964	(D)	(D)	(D)	(D)	3074	(D)	0	0	1007	(D)	(D)	(D)
Rubber products	7554	(D)	2575	(D)	(D)	(D)	13	239	0	0	0	(D)	0	3827	0
Misc. plastics products	4618	1413	2521	350	687	(D)	53	(D)	60	0	0	624	10	603	0
Stone, clay, & glass products	16820	(D)	11618	4012	1194	299	891	4325	(D)	0	0	3311	1050	2228	0
Transportation equipment	16374	508	7596	2581	803	(D)	50	3492	2	0	(*)	8261	0	8235	7
Motor vehicles & equipment .	12629	405	3996	(D)	609	0	50	1153	0	0	0	8229	0	8229	0
Other	3745	104	3600	(D)	194	(D)	0	2339	2	0	(*)	32	0	6	7
Instruments and related prods.	8602	178	6417	355	1170	8	1078	3586	(D)	107	0	(D)	5	414	0
Other	10716	126	9755	479	102	30	281	(D)	407	(*)	0	427	0	(D)	0
Wholesale trade	347258	8986	127456	33454	26535	(D)	8390	35067	4136	1669	707	202946	923	192124	1359
Motor vehicles and equipment ...	86615	229	19627	(D)	11548	5	0	(D)	138	0	(D)	65647	(D)	63345	(D)
Professional & commer. equip. ..	17984	39	4041	83	613	501	956	963	(D)	0	(D)	13800	0	13397	(*)
Metals and minerals	64753	2190	14826	2749	5584	(D)	647	1917	(D)	489	(D)	46402	(D)	44117	0
Electrical goods	31441	338	2910	301	931	51	117	1044	159	0	117	27916	0	25231	0
Machinery & equipment	35322	895	7899	538	1845	829	966	1733	(D)	(D)	69	25743	3	25694	149
Other durable goods	24022	230	18297	745	567	125	548	15097	239	0	0	5256	(D)	4998	0
Groceries and related products .	15800	996	11683	84	(D)	1125	(D)	5059	802	(D)	216	2007	0	1945	(D)
Farm product raw materials	46938	18	34400	(D)	(D)	224	(D)	(D)	441	0	0	12079	12	11658	0
Other nondurable goods	24383	4050	13773	1528	1053	1712	82	7317	1136	(D)	0	4094	601	1740	(D)
Retail trade	72092	19227	42394	2530	13432	10020	1076	6036	5614	23	295	4459	2077	1454	79
General merchandise stores	15957	(D)	4360	(D)	(D)	(D)	(D)	272	(D)	0	0	(D)	(D)	145	0
Food stores	30218	3670	25644	1096	11413	(D)	0	(D)	(D)	0	(*)	(D)	(D)	(D)	0
Apparel and accessory stores ...	6759	1645	3850	198	119	(D)	(D)	(D)	(D)	0	(D)	827	(D)	(D)	7
Other	19159	(D)	8539	(D)	(D)	1184	63	3034	5173	23	(D)	1513	(D)	632	72
Finance, except banking	44014	1564	15830	539	1002	183	(D)	4217	707	(D)	(D)	24365	(D)	22643	(D)
Insurance	54356	12270	31914	216	2463	6736	6965	10882	199	(D)	(D)	(D)	(D)	444	(D)
Real estate	14909	5599	4189	207	439	938	286	1870	465	(D)	1364	(D)	324	2443	(D)
Services	30959	1850	19101	2153	1268	802	1486	10010	1462	(D)	1353	7073	(D)	3130	(D)
Hotels & other lodging places ..	3927	129	1008	109	13	20	53	669	108	(D)	287	2347	0	2020	(D)
Business services	11519	(D)	9071	1679	122	688	(D)	4842	(D)	0	(D)	829	(D)	515	55
Computer & data proc. serv. ..	3207	219	2400	554	(D)	656	(D)	582	463	0	(*)	119	(D)	52	8
Other business services	8312	(D)	6671	1125	(D)	32	(D)	4260	(D)	0	(D)	710	(D)	463	47
Motion pictures	5206	(D)	1565	(*)	6	13	0	1445	65	0	0	(D)	(D)	36	7
Engineering & arch. services ...	3704	198	(D)	167	375	37	(D)	554	3	0	(D)	245	0	245	5
Account., resch. & mgmt. serv. .	1575	30	1316	71	19	43	89	1057	7	4	0	217	2	192	0
Health services	1267	(D)	(D)	0	(D)	0	0	(D)	0	0	0	(*)	(*)	0	0
Other services	3760	138	3150	126	(D)	0	9	(D)	(D)	0	15	(D)	78	122	3
Other industries	46669	9694	18893	2915	3217	331	877	9283	583	16	531	16784	9370	5760	169
Agriculture, forestry, & fish. .	2199	63	931	107	273	57	119	227	(D)	(D)	33	907	0	(D)	0
Mining	8505	2507	5259	(D)	(D)	24	2	4447	0	(*)	(D)	(D)	194	(D)	5
Coal	1493	391	965	(*)	(D)	24	2	524	0	(*)	(D)	(D)	3	0	0
Other	7012	2116	4294	(D)	33	0	0	3923	0	0	0	598	192	(D)	5
Construction	13097	1697	6923	2012	2222	99	211	1561	(D)	(D)	(D)	4280	(D)	2837	0
Transportation	19800	4205	4109	(D)	311	152	(D)	2073	(D)	9	175	10896	8880	1640	(D)
Communication & pub. utilities .	3069	1222	1670	375	(D)	0	(D)	974	(D)	0	2	(D)	(D)	8	(D)

Table 43.--Sales by Affiliates, Industry of Affiliate by Country of UBO, 1990

[Millions of dollars]

	All countries	Canada	Europe						Latin America and Other Western Hemisphere	Africa	Middle East	Asia and Pacific			United States
			Total	Of which—								Total	Of which—		
				France	Germany	Netherlands	Switzerland	United Kingdom					Australia	Japan	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
All industries	1168490	127097	599151	85540	107521	72819	64439	188852	36157	5940	17079	369324	31463	313138	13741
Petroleum	116785	5237	69004	(D)	1772	(D)	(D)	22203	18534	1416	(D)	8525	(D)	3486	(D)
Petroleum & coal prods. manuf.	71722	(D)	52169	(D)	105	(D)	(D)	(D)	(D)	0	(D)	(D)	(D)	1	0
Other	45064	(D)	16835	(D)	1667	710	(D)	(D)	(D)	1416	(D)	(D)	490	3485	(D)
Manufacturing	389115	58243	245361	34112	44929	23805	32998	80827	7012	2710	665	74628	7835	59251	496
Food and kindred products	44986	6041	32833	2811	421	2526	(D)	15425	222	(D)	0	5452	1060	2546	(D)
Beverages	6163	(D)	2025	(D)	120	0	1	(D)	11	0	0	1694	(D)	630	(D)
Other	38823	(D)	30809	(D)	302	2526	(D)	(D)	211	(D)	0	3758	(D)	1916	0
Chemicals and allied products	109394	(D)	76480	4632	21061	11520	11221	23953	(D)	0	113	6203	46	5506	3
Industrial chemicals	68625	(D)	39707	(D)	17103	(D)	199	13360	14	0	0	(D)	0	3340	3
Drugs	21716	4	19492	(D)	680	1	9890	7417	(D)	0	(D)	1061	1	1060	0
Soap, cleaners, & toiletries	14630	(D)	13753	134	2771	(D)	(D)	(D)	2	0	(D)	(D)	(D)	590	0
Other	4423	124	3527	198	507	(D)	(D)	(D)	136	0	0	637	(D)	517	(*)
Primary and fabricated metals	52368	7392	24526	8536	4312	1136	(D)	5537	(D)	(D)	(D)	16013	2800	12308	0
Primary metal industries	32319	(D)	9112	(D)	1138	0	(D)	2100	33	(D)	0	14502	(D)	11202	0
Ferrous	16251	(D)	3103	1257	488	0	(D)	139	(D)	0	0	11347	(D)	10402	0
Nonferrous	16068	(D)	6009	(D)	651	0	1694	1961	(D)	(D)	0	3155	(D)	800	0
Fabricated metal products	20050	(D)	15413	(D)	3173	1136	400	3437	(D)	(D)	(D)	1511	(D)	1106	0
Machinery	79607	6824	49804	5450	9345	(D)	7688	10889	451	(D)	336	21929	1217	17185	(D)
Machinery, except electrical	35452	1044	18472	1936	3220	181	(D)	6240	444	(D)	(D)	15078	(D)	12191	(D)
Computer & office equip.	11571	(D)	3918	(D)	256	32	(D)	1753	(D)	0	109	7165	0	6548	0
Other	23881	(D)	14554	(D)	2964	149	2295	4487	(D)	(D)	(D)	7913	(D)	5643	(D)
Electric & electronic equip.	44154	5780	31332	3514	6125	(D)	(D)	4649	7	(D)	(D)	6850	(D)	4994	33
Audio, video, & comm.	16412	(D)	10589	(D)	(D)	(D)	(D)	841	0	(*)	(D)	1362	183	1086	3
Electronic components	7714	(D)	4055	(D)	1870	429	64	1106	7	(D)	0	3400	29	2778	27
Other	20029	1249	16689	567	(D)	49	(D)	2702	0	0	0	2089	(D)	1129	2
Other manufacturing	102761	(D)	61718	12682	9790	(D)	3527	25022	2894	98	(D)	25031	2712	21705	(D)
Textile products and apparel	5794	1091	3232	273	614	56	252	1647	(D)	0	(D)	972	0	937	(D)
Lumber and furniture	2774	331	1598	81	463	0	27	915	0	0	(*)	845	(D)	257	0
Paper and allied products	9160	1542	6001	47	384	(D)	(D)	1356	36	0	(D)	1398	(D)	904	(D)
Printing and publishing	17099	5681	10014	(D)	(D)	(D)	(D)	5081	(D)	0	2	1181	(D)	(D)	(D)
Newspapers	(D)	(D)	41	0	3	0	0	(D)	11	0	2	2	0	2	0
Other	(D)	(D)	9973	(D)	(D)	(D)	(D)	(D)	(D)	0	0	1179	(D)	(D)	(D)
Rubber products	9771	(D)	4400	(D)	(D)	(D)	12	187	0	0	0	(D)	0	(D)	0
Misc. plastics products	4778	1169	2888	469	609	(D)	46	(D)	99	0	0	623	9	603	0
Stone, clay, & glass products	17549	99	12640	5081	1340	211	1017	3939	(D)	0	0	(D)	1238	1768	0
Transportation equipment	19687	1200	7340	2531	844	(D)	46	2653	2	0	(*)	11138	0	11122	6
Motor vehicles & equipment	15600	1107	3376	(D)	657	0	46	514	0	0	0	11117	0	11117	0
Other	4087	94	3963	(D)	188	(D)	0	2139	2	0	(*)	22	0	5	6
Instruments and related prods.	8416	159	7321	646	1343	8	1069	3575	3	98	0	835	5	672	0
Other	7732	203	6285	420	61	8	286	(D)	435	(*)	0	808	(D)	646	(*)
Wholesale trade	381462	8673	133126	35092	30943	6292	7640	37299	4618	1528	539	231534	1154	219419	1444
Motor vehicles and equipment	94338	316	20811	(D)	13103	5	0	957	107	0	(D)	72223	(D)	70237	(D)
Professional & commer. equip.	15903	39	4019	76	847	479	1009	1295	74	0	107	11664	0	11186	(*)
Metals and minerals	79362	1845	14185	3291	4275	(D)	221	2650	(D)	(D)	0	62237	66	60122	0
Electrical goods	34980	354	2435	312	884	44	123	(D)	179	0	3	32009	0	29686	0
Machinery & equipment	36741	883	7636	306	1621	764	904	1798	(D)	(D)	69	27168	3	26640	329
Other durable goods	28242	328	20942	900	(D)	629	555	17261	(D)	(D)	0	6304	102	5921	0
Groceries and related products	20006	1121	15009	(D)	6808	550	67	5893	755	(D)	207	2782	0	1984	(D)
Farm product raw materials	45863	54	33427	25507	(D)	(D)	4423	(D)	389	0	0	11994	12	11487	0
Other nondurable goods	26027	3733	14663	1795	2606	2089	337	5313	1198	(D)	(D)	5154	(D)	2155	(D)
Retail trade	76074	19675	49265	2991	21517	7669	(D)	8191	2222	(D)	451	4356	1479	1891	(D)
General merchandise stores	13255	(D)	2127	(D)	(D)	(D)	(D)	(D)	(D)	0	0	(D)	(D)	304	0
Food stores	36841	(D)	32272	1172	19184	(D)	0	(D)	(D)	0	(*)	(D)	(D)	(D)	0
Apparel and accessory stores	7826	1974	4802	245	141	(D)	(D)	2412	380	0	0	663	5	(D)	7
Other	18153	4024	10064	(D)	(D)	1274	60	3730	1675	(D)	451	1840	(D)	950	(D)
Finance, except banking	29087	2232	11378	593	1186	227	(D)	4052	953	(D)	(D)	13988	(D)	12335	(D)
Insurance	63377	14736	37069	(D)	2248	(D)	8891	12467	229	0	(D)	(D)	454	547	(D)
Real estate	17412	6475	3981	214	452	1000	305	1533	417	(D)	1329	(D)	357	4255	(D)
Services	37930	2331	22141	3561	817	699	2207	11050	1455	15	377	11486	(D)	6587	125
Hotels & other lodging places	5327	128	1689	558	12	16	44	926	117	(D)	317	3028	0	2340	(D)
Business services	12749	681	9972	1763	(D)	568	1716	5161	1215	0	40	767	(D)	440	75
Computer & data proc. serv.	3914	293	3048	551	(D)	539	(D)	769	(D)	0	(D)	88	1	59	7
Other business services	8835	388	6924	1212	30	30	(D)	4392	(D)	0	(D)	679	(D)	381	68
Motion pictures	9163	(D)	1943	(*)	5	12	0	1792	77	0	0	(D)	(D)	(D)	6
Engineering & arch. services	3897	187	3425	916	322	56	(D)	854	3	0	1	277	0	277	4
Account., resch. & mgmt. serv.	1006	(D)	(D)	175	32	47	101	359	7	(D)	0	(D)	3	158	0
Health services	1638	541	(D)	0	(D)	0	0	(D)	0	0	0	(D)	(*)	(D)	0
Other services	4150	(D)	3407	148	2	0	(D)	(D)	37	0	19	399	55	196	(D)
Other industries	57248	9496	27827	2175	3658	1110	666	11232	717	(D)	413	18507	11166	5367	(D)
Agriculture, forestry, & fish.	2146	(D)	1065	140	325	90	128	226	328	(D)	(D)	(D)	0	(D)	0
Mining	10031	2494	6419	(D)	(D)	(D)	2	4735	(D)	(D)	(D)	758	297	(D)	1
Coal	1728	(D)	1189	(*)	(D)	22	2	649	0	(*)	(D)	3	3	0	0
Other	8303	(D)	5230	(D)	30	(D)	0	4086	(D)	(D)	0	755	295	(D)	1
Construction	13793	1936	6906	941	2355	108	102	2219	(D)	1	(D)	4705	(D)	2595	0
Transportation	27254	3541	11057	479	364	(D)	(D)	2359	170	(D)	23	12291	10307	1745	(D)
Communication & pub. utilities	4024	(D)	2379	(D)	(D)	0	(D)	1693	72	0	1	(D)	(D)	19	0

Table 44a.—Sales by Affiliates, Industry of Sales by Industry of Affiliate, 1988

[Millions of dollars]

For the distribution by industry of sales, read the column. For the distribution by industry of affiliate, read the row.	All industries	Petroleum	Manufacturing									
			Total	Food and kindred products	Chemicals and allied products					Primary and fabricated metals		
					Total	Industrial chemicals and synthetics	Drugs	Soap, cleaners, and toilet goods	Other	Total	Primary metal industries	Fabricated metal products
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
All industries	886407	74254	280716	31160	78835	52036	13530	9175	4094	36765	20944	15821
Petroleum	99425	63474	5601	0	(D)	(D)	0	0	0	24	(D)	(D)
Petroleum & coal prods. manuf.	41207	(D)	(D)	0	(D)	(D)	0	0	0	0	0	0
Other	58218	(D)	(D)	0	(D)	(D)	0	0	0	24	(D)	(D)
Manufacturing	269317	8510	236809	27815	64315	40005	11738	9147	3424	32147	18841	13306
Food and kindred products	34933	(D)	30691	27452	2928	(D)	(D)	2712	(D)	(D)	0	(D)
Beverages	6806	0	6346	(D)	(D)	(D)	2	(D)	0	0	0	0
Other	28128	(D)	24345	(D)	(D)	1	(D)	(D)	(D)	(D)	0	(D)
Chemicals and allied products	65784	6247	58673	238	55914	35350	11175	6147	3242	862	862	0
Industrial chemicals	35566	(D)	30312	3	28267	26871	(D)	(D)	(D)	861	861	0
Drugs	12398	0	(D)	(D)	12063	(D)	8944	0	(D)	0	0	0
Soap, cleaners, & toiletries	6449	0	6449	(D)	6268	(D)	(D)	5304	0	0	0	0
Other	11370	(D)	(D)	7	9317	4948	(D)	(D)	2754	(*)	(*)	0
Primary and fabricated metals	31921	(D)	29394	(D)	(D)	(D)	0	0	(D)	27831	16774	11057
Primary metal industries	20081	(D)	17874	0	(D)	0	0	0	(D)	17222	16603	618
Ferrous	9433	0	8508	0	0	0	0	0	0	8249	(D)	(D)
Nonferrous	10648	(D)	9366	0	(D)	0	0	0	(D)	8973	(D)	(D)
Fabricated metal products	11840	2	11520	(D)	(D)	(D)	0	0	0	10610	171	10438
Machinery	50522	183	45716	(D)	627	373	(D)	67	(D)	984	367	618
Machinery, except electrical	19793	(D)	18437	(*)	309	(D)	(D)	(D)	(D)	844	(D)	(D)
Computer & office equip.	4653	1	4462	0	0	0	0	0	0	(D)	0	(D)
Other	15140	(D)	13974	(*)	309	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Electric & electronic equip.	30729	(D)	27279	(D)	318	(D)	(D)	(D)	(D)	140	(D)	(D)
Audio, video, & comm.	12252	0	10388	(D)	(D)	0	(D)	0	0	(D)	(D)	0
Electronic components	7260	(D)	6360	3	(D)	(D)	0	0	0	(D)	(D)	(D)
Other	11217	0	10531	(D)	48	(D)	0	(D)	(D)	18	1	17
Other manufacturing	86157	(D)	72335	40	(D)	4139	257	222	(D)	(D)	838	(D)
Textile products and apparel	4450	0	4345	0	(D)	(D)	0	0	2	0	0	0
Lumber and furniture	2933	0	2576	0	(D)	0	0	(D)	1	65	0	65
Paper and allied products	8435	0	7677	(D)	45	45	0	0	0	(D)	(D)	0
Printing and publishing	12233	0	11491	0	(D)	(D)	0	3	0	(D)	(D)	3
Newspapers	1742	0	(D)	0	0	0	0	0	0	0	0	0
Other	10490	0	(D)	0	(D)	(D)	0	3	0	(D)	(D)	3
Rubber products	6431	0	5282	0	0	0	0	0	0	0	0	0
Misc. plastics products	5977	0	5834	0	1577	1577	0	0	0	(D)	(D)	37
Stone, clay, & glass products	12182	(D)	11907	(D)	(D)	(D)	0	0	(D)	282	177	105
Transportation equipment	18216	1	9412	0	(D)	0	(D)	0	0	(D)	(D)	(D)
Motor vehicles & equipment	15139	1	6342	0	0	0	0	0	0	492	(D)	(D)
Other	3077	0	3071	0	(D)	0	(D)	0	0	(D)	0	(D)
Instruments and related prods.	9444	(D)	8543	4	1927	1609	(D)	(D)	(D)	242	(D)	(D)
Other	5858	0	5269	6	9	0	0	(D)	(D)	(D)	(D)	(D)
Wholesale trade	280658	470	16704	2413	3340	2203	1062	(D)	(D)	3099	1432	1668
Motor vehicles and equipment	64390	0	(D)	0	0	0	0	0	0	(D)	0	(D)
Professional & commer. equip.	14711	(D)	1147	0	(D)	(D)	(D)	3	0	17	0	17
Metals and minerals	41647	(D)	3201	0	(D)	8	0	0	(D)	2840	(D)	(D)
Electrical goods	24729	0	2543	(D)	(D)	(*)	0	0	(D)	12	(D)	(D)
Machinery & equipment	21766	(D)	1605	0	189	189	0	0	0	66	(D)	(D)
Other durable goods	27296	(D)	584	3	(D)	(D)	0	0	0	106	0	106
Groceries and related products	18227	0	527	(D)	0	0	0	0	0	0	0	0
Farm product raw materials	31437	0	(D)	(D)	0	0	0	0	0	0	0	0
Other nondurable goods	36456	263	6003	1452	2740	1768	(D)	(D)	(D)	(D)	(D)	0
Retail trade	64841	(D)	4556	(D)	5	0	0	(*)	5	0	0	0
General merchandise stores	16392	0	(D)	2	(*)	0	0	(*)	0	0	0	0
Food stores	27307	(D)	(D)	(D)	0	0	0	0	0	0	0	0
Apparel and accessory stores	5233	0	(D)	0	0	0	0	0	0	0	0	0
Other	15910	(D)	1716	(D)	5	0	0	0	5	0	0	0
Finance, except banking	36346	1	(D)	0	0	0	0	0	0	0	0	0
Insurance	49150	(D)	(D)	0	0	0	0	0	0	0	0	0
Real estate	13733	2	(D)	5	(*)	(*)	0	0	0	1	(*)	1
Services	26346	199	3698	229	721	(D)	(D)	(D)	6	146	(D)	(D)
Hotels & other lodging places	3160	(D)	(D)	(D)	0	0	0	0	0	0	0	0
Business services	11276	(D)	2201	(D)	(D)	(D)	5	0	1	(D)	0	(D)
Computer & data proc. serv.	3366	0	1267	0	0	0	0	0	0	0	0	0
Other business services	7910	(D)	933	(D)	(D)	(D)	5	0	1	(D)	0	(D)
Motion pictures	2015	0	(D)	0	0	0	0	0	0	0	0	0
Engineering & arch. services	2834	0	587	0	(D)	(D)	0	0	0	(D)	(D)	(D)
Account., resch. & mgmt. serv.	1936	29	516	0	(D)	3	(D)	(D)	5	2	2	0
Health services	1203	0	1	0	1	0	1	0	0	0	0	0
Other services	3921	4	274	0	(D)	(D)	0	(*)	0	(D)	(*)	(D)
Other industries	36861	733	5251	40	(D)	(D)	0	0	(D)	1047	(D)	(D)
Agriculture, forestry, & fish.	2745	(D)	122	(D)	0	0	0	0	0	(*)	0	(*)
Mining	9995	(D)	3360	0	(D)	(D)	0	0	(D)	(D)	(D)	0
Coal	4520	(D)	(D)	0	(D)	(D)	0	0	0	(D)	(D)	0
Other	5475	(D)	(D)	0	(D)	(D)	0	0	(D)	(D)	(D)	0
Construction	10273	3	1539	0	0	0	0	0	0	622	(D)	(D)
Transportation	11388	95	(D)	(D)	0	0	0	0	0	(D)	(D)	0
Communication & pub. utilities	2460	0	(D)	0	0	0	0	0	0	0	0	0
Unspecified	9731	(D)	6770	(D)	3519	(D)	(D)	2	0	301	123	178

Table 44b.—Sales by Affiliates, Industry of Sales by Industry of Affiliate, 1988—Continued

[Millions of dollars]

For the distribution by industry of sales, read the column. For the distribution by industry of affiliate, read the row.	Manufacturing, continued															
	Machinery			Other manufacturing												
	Total	Machinery, except electrical	Electric and electronic equipment	Total	Textile products and apparel	Lumber, wood, furniture, and fixtures	Paper and allied products	Printing and publishing	Rubber products	Miscellaneous plastics products	Stone, clay, and glass products	Transportation equipment			Instruments and related products	Other
												Total	Motor vehicles and equipment	Other		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
All industries	56279	22894	33386	77676	4677	1945	8008	12233	6650	4138	14152	9411	6756	2655	7419	9042
Petroleum	103	(D)	(D)	(D)	0	(D)	0	0	(D)	(D)	(D)	0	0	0	(D)	0
Petroleum & coal prods. manuf.	0	0	0	(D)	0	0	0	0	0	0	(D)	0	0	0	0	0
Other	103	(D)	(D)	(D)	0	(D)	0	0	(D)	(D)	6	0	0	0	(D)	0
Manufacturing	46875	18255	28620	65657	4545	1818	7336	10905	5291	3953	12179	8090	5690	2401	6289	5251
Food and kindred products	(D)	(D)	0	(D)	0	0	(D)	0	0	1	0	0	0	0	0	0
Beverages	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	(D)	(D)	0	(D)	0	0	(D)	0	0	1	0	0	0	0	0	0
Chemicals and allied products	756	(D)	(D)	903	(D)	0	0	(D)	(D)	(D)	41	(D)	(D)	0	266	0
Industrial chemicals	725	(D)	(D)	456	(D)	0	0	(D)	(D)	(D)	0	(D)	(D)	0	0	0
Drugs	0	0	0	(D)	0	0	0	0	0	0	0	0	0	0	(D)	0
Soap, cleaners, & toiletries	(D)	(D)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	(D)	0	(D)	(D)	(D)	0	0	0	0	2	41	0	0	0	(D)	0
Primary and fabricated metals	(D)	(D)	(D)	589	(D)	0	(D)	(D)	(D)	(D)	(D)	(D)	(D)	6	32	(D)
Primary metal industries	(D)	(D)	(D)	134	(D)	0	0	0	(D)	0	(D)	(D)	(D)	6	(D)	0
Ferrous	221	(D)	(D)	38	0	0	0	0	(D)	0	(D)	5	0	5	0	0
Nonferrous	(D)	0	(D)	96	(D)	0	0	0	0	0	0	(D)	(D)	1	(D)	0
Fabricated metal products	344	270	73	454	(D)	0	(D)	(D)	0	(D)	33	(D)	(D)	0	(D)	(D)
Machinery	42403	15732	26671	(D)	26	0	(D)	(D)	(D)	100	(D)	376	82	294	519	(D)
Machinery, except electrical	16638	14688	1950	645	26	0	0	(D)	(D)	100	5	102	(D)	(D)	222	0
Computer & office equip.	4364	4021	344	(D)	0	0	0	0	0	(D)	0	0	0	0	(D)	0
Other	12274	10668	1606	(D)	26	0	0	(D)	(D)	(D)	5	102	(D)	(D)	(D)	0
Electric & electronic equip.	25765	1043	24722	(D)	0	0	(D)	(D)	5	0	(D)	274	(D)	(D)	298	(D)
Audio, video, & comm.	9491	0	9491	(D)	0	0	0	(D)	0	0	0	26	0	26	(D)	0
Electronic components	5874	(D)	(D)	296	0	0	(D)	0	0	0	(D)	(D)	0	(D)	(D)	(D)
Other	10400	(D)	(D)	(D)	0	0	0	0	5	0	0	(D)	(D)	(D)	1	0
Other manufacturing	2625	1401	1224	62483	4303	1818	7132	10391	4951	3578	12059	7545	5444	2101	5472	5234
Textile products and apparel	(D)	0	(D)	4219	4081	0	(D)	0	(D)	0	(D)	0	0	0	5	0
Lumber and furniture	(D)	(D)	(D)	2033	0	1818	89	0	0	0	(D)	0	0	0	0	(D)
Paper and allied products	1	1	0	7591	(D)	0	6752	0	0	22	0	0	0	0	0	(D)
Printing and publishing	(D)	(D)	0	10282	3	0	0	10279	0	0	0	0	0	0	0	0
Newspapers	0	0	0	(D)	0	0	0	(D)	0	0	0	0	0	0	0	0
Other	(D)	(D)	0	(D)	3	0	0	(D)	0	0	0	0	0	0	0	0
Rubber products	(D)	0	(D)	(D)	(D)	0	0	0	4711	(D)	0	(D)	(D)	0	(D)	0
Misc. plastics products	(D)	(D)	4	4072	(D)	0	233	112	(D)	3024	357	22	0	22	0	(D)
Stone, clay, & glass products	384	(D)	(D)	11195	0	0	2	0	0	3	11153	(D)	(D)	0	0	(D)
Transportation equipment	163	131	32	7784	0	0	0	0	(D)	(D)	(D)	7476	5397	2079	(D)	0
Motor vehicles & equipment	136	(D)	(D)	5714	0	0	0	0	(D)	(D)	(D)	5420	5328	92	(D)	0
Other	27	(D)	(D)	2070	0	0	0	0	(D)	0	0	2056	69	1987	(D)	0
Instruments and related prods.	691	239	453	5678	0	0	0	0	0	1	(D)	3	3	0	5343	(D)
Other	650	(D)	(D)	(D)	65	0	(D)	0	(D)	12	(D)	(D)	(D)	0	1	4257
Wholesale trade	4301	905	3396	3551	80	11	589	(D)	490	143	340	904	(D)	(D)	442	(D)
Motor vehicles and equipment	11	7	3	(D)	0	0	0	0	(D)	0	0	482	482	0	0	0
Professional & commer. equip.	(D)	1	(D)	194	0	0	0	0	0	0	0	0	0	0	194	0
Metals and minerals	0	0	0	(D)	1	0	0	0	(D)	0	(D)	(D)	(D)	0	0	0
Electrical goods	2288	8	2280	199	0	0	0	(D)	0	2	(D)	0	0	0	(D)	0
Machinery & equipment	840	419	421	510	0	1	6	0	(D)	3	0	(D)	(*)	(D)	(D)	(D)
Other durable goods	5	5	0	(D)	0	(D)	58	0	0	(D)	283	0	0	0	(*)	12
Groceries and related products	0	0	0	(D)	0	(D)	(D)	0	0	0	0	0	0	0	0	0
Farm product raw materials	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other nondurable goods	(D)	463	(D)	1285	79	0	(D)	(D)	(D)	(D)	4	0	0	0	(D)	3
Retail trade	(D)	(D)	4	3871	14	0	0	(D)	(D)	4	(D)	293	(D)	(D)	(*)	(D)
General merchandise stores	2	2	0	(D)	0	0	0	(D)	0	1	(*)	0	0	0	0	(D)
Food stores	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apparel and accessory stores	(D)	(D)	0	14	14	0	0	0	0	0	0	0	0	0	0	0
Other	(D)	(D)	4	(D)	0	0	0	(D)	(D)	3	(D)	293	(D)	(D)	(*)	1
Finance, except banking	(D)	0	(D)	(D)	0	0	(D)	0	0	0	2	(D)	(D)	0	0	0
Insurance	0	0	0	(D)	0	0	0	(D)	0	0	(D)	0	0	0	1	(D)
Real estate	(*)	(*)	0	(D)	(D)	0	0	1	0	0	3	0	0	0	(*)	(*)
Services	1721	1422	298	881	(D)	1	51	611	3	9	(D)	32	(D)	(D)	87	(D)
Hotels & other lodging places	0	0	0	(D)	0	0	0	0	0	0	(D)	0	0	0	0	0
Business services	1064	1060	4	709	0	0	(D)	586	0	5	(*)	0	0	0	(D)	1
Computer & data proc. serv.	1021	1017	4	247	0	0	0	(D)	0	5	0	0	0	0	(D)	(*)
Other business services	43	43	0	463	0	0	(D)	(D)	0	0	(*)	0	0	0	(D)	(*)
Motion pictures	(D)	0	(D)	0	0	0	0	0	0	0	0	0	0	0	0	0
Engineering & arch. services	418	(D)	(D)	(D)	0	0	0	0	0	0	(D)	(D)	(D)	1	0	0
Account., resch. & mgmt. serv.	(D)	(D)	(D)	37	(*)	0	2	25	0	3	2	0	0	0	4	0
Health services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other services	143	137	6	52	(D)	1	(D)	(*)	3	(*)	0	(D)	(D)	(D)	(D)	(D)
Other industries	314	(D)	(D)	(D)	0	(D)	12	(D)	(D)	(D)	1287	(D)	0	(D)	5	0
Agriculture, forestry, & fish.	0	0	0	(D)	0	(D)	1	0	0	0	0	0	0	0	0	0
Mining	(D)	(D)	0	620	0	0	0	0	0	(D)	(D)	0	0	0	0	0
Coal	0	0	0	(D)	0	0	0	0	0	(D)	0	0	0	0	0	0
Other	(D)	(D)	0	(D)	0	0	0	0	0	0	(D)	0	0	0	0	0
Construction	(D)	0	(D)	(D)	0	0	0	0	0	0	669	(D)	0	(D)	0	0
Transportation	(D)	(D)	(D)	27	0	0	(D)	2	(D)	0	(D)	0	0	0	0	0
Communication & pub. utilities	0	0	0	(D)	0	0	(D)	(D)	0	0	1	0	0	0	5	0
Unspecified	2811	2070	741	(D)	(*)	0	(D)	1	22	1	15	3	3	(*)	(D)	0

Table 44c.—Sales by Affiliates, Industry of Sales by Industry of Affiliate, 1988—Continued

[Millions of dollars]

For the distribution by industry of sales, read the column. For the distribution by industry of affiliate, read the row.	Wholesale trade										Retail trade	Finance, except banking	Insurance	Real estate	Services	Other industries
	Total	Motor vehicles and equipment	Professional and commercial equipment and supplies	Metals and minerals, except petroleum	Electrical goods	Machinery, equipment, and supplies	Other durable goods	Groceries and related products	Farm product raw materials	Other nondurable goods						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
All industries	320216	83826	14626	62497	26538	31690	23604	15699	36263	25472	60601	34875	48856	13015	22829	31044
Petroleum	29058	(D)	2	13321	111	(D)	3	(D)	4750	(D)	67	(*)	0	(D)	272	(D)
Petroleum & coal prods. manuf.	(D)	0	0	0	(D)	0	0	0	0	0	0	0	0	0	0	(D)
Other	(D)	(D)	2	13321	(D)	(D)	3	(D)	4750	(D)	67	(*)	0	(D)	272	893
Manufacturing	21835	10154	1029	1496	3117	760	796	232	2152	2100	560	(*)	0	4	1096	502
Food and kindred products	2815	1	0	(D)	0	0	0	199	2152	(D)	(D)	0	0	0	(D)	(D)
Beverages	(D)	0	0	0	0	0	0	0	0	(D)	0	0	0	0	(D)	0
Other	(D)	1	0	(D)	0	0	0	199	2152	0	(D)	0	0	0	(D)	(D)
Chemicals and allied products	776	4	(D)	(D)	2	(D)	0	0	0	412	0	0	0	0	(D)	(D)
Industrial chemicals	(D)	3	(D)	(D)	2	0	0	0	0	(D)	0	0	0	0	(D)	0
Drugs	(D)	0	0	0	0	0	0	0	0	(D)	0	0	0	0	0	0
Soap, cleaners, & toiletries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	350	1	0	(D)	0	(D)	0	0	0	235	0	0	0	0	0	(D)
Primary and fabricated metals	1173	50	0	912	0	52	104	(D)	0	(D)	(D)	0	0	0	59	191
Primary metal industries	1002	0	0	886	0	0	(D)	0	0	(D)	(D)	0	0	0	(D)	(D)
Ferrous	(D)	0	0	(D)	0	0	(D)	0	0	0	(D)	0	0	0	(D)	(D)
Nonferrous	(D)	0	0	(D)	0	0	0	0	0	(D)	0	0	0	0	0	0
Fabricated metal products	171	50	0	26	0	52	(D)	(D)	0	0	0	0	0	0	(D)	(D)
Machinery	4205	191	(D)	204	2635	606	31	0	0	(D)	0	0	0	0	306	112
Machinery, except electrical	1030	117	29	(D)	97	529	(D)	0	0	(D)	0	0	0	0	(D)	112
Computer & office equip.	190	0	(D)	(D)	92	(D)	0	0	0	0	0	0	0	0	0	0
Other	840	117	(D)	125	5	(D)	(D)	0	0	(D)	0	0	0	0	(D)	112
Electric & electronic equip.	3175	74	(D)	(D)	2538	77	(D)	0	0	0	0	0	0	0	(D)	0
Audio, video, & comm.	(D)	0	(D)	0	1286	(D)	0	0	0	0	0	0	0	0	(D)	0
Electronic components	(D)	(D)	(D)	(D)	699	0	(D)	0	0	0	0	0	0	0	(D)	0
Other	686	(D)	0	0	554	(D)	1	0	0	0	0	0	0	0	0	0
Other manufacturing	12866	9910	529	56	479	(D)	661	(D)	0	1124	45	(*)	0	4	689	(D)
Textile products and apparel	105	5	0	0	(D)	1	0	0	0	(D)	0	0	0	0	0	0
Lumber and furniture	(D)	0	0	0	0	0	(D)	0	0	(D)	0	0	0	(*)	0	(D)
Paper and allied products	(D)	0	0	0	2	0	0	0	0	(D)	0	0	0	2	0	(D)
Printing and publishing	97	(D)	13	0	0	0	(D)	0	0	(D)	0	0	0	0	645	0
Newspapers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(D)	0
Other	97	(D)	13	0	0	0	(D)	0	0	(D)	0	0	0	0	(D)	0
Rubber products	(D)	(D)	0	0	0	(D)	0	0	0	0	(D)	0	0	0	0	0
Misc. plastics products	137	0	4	0	(D)	0	(D)	0	0	(D)	0	0	0	1	0	6
Stone, clay, & glass products	136	5	0	0	(D)	0	(D)	0	0	(D)	0	0	0	1	0	(D)
Transportation equipment	8800	8780	18	0	0	2	0	0	0	0	0	(*)	0	0	2	0
Motor vehicles & equipment	8796	8779	15	0	0	2	0	0	0	0	0	(*)	0	0	0	0
Other	5	1	3	0	0	0	0	0	0	0	0	0	0	0	2	0
Instruments and related prods.	850	0	491	56	160	40	(D)	0	0	(D)	(D)	0	0	0	42	0
Other	562	0	4	0	134	17	(D)	(D)	0	(D)	25	0	0	0	0	2
Wholesale trade	262065	67905	13067	46377	22080	25043	22569	13941	28126	22957	490	0	0	17	(D)	(D)
Motor vehicles and equipment	63451	61939	(D)	279	(D)	(D)	2	(D)	0	0	(D)	0	0	0	(D)	0
Professional & commer. equip.	13464	(D)	11939	(D)	1160	(D)	(D)	0	0	17	0	0	0	(*)	61	(D)
Metals and minerals	37936	(D)	0	32815	1	2471	(D)	(D)	503	183	0	0	0	0	0	(D)
Electrical goods	22175	102	823	975	19982	2	14	(D)	0	(D)	0	0	0	0	11	0
Machinery & equipment	19983	1054	(D)	2717	347	14760	(D)	(D)	(D)	24	18	0	0	(D)	(D)	(D)
Other durable goods	26609	16	14	1061	295	2430	21697	(D)	(D)	845	20	0	0	(D)	(D)	6
Groceries and related products	17446	(D)	0	(D)	7	(D)	(D)	12360	502	368	(D)	0	0	0	0	(D)
Farm product raw materials	30940	0	0	3602	(D)	(D)	(D)	563	25149	(D)	0	0	0	0	0	(D)
Other nondurable goods	30061	1747	88	3365	173	2068	179	260	1030	21151	106	0	0	2	20	1
Retail trade	957	(D)	8	8	(D)	77	32	(D)	0	33	58888	1	2	(D)	317	4
General merchandise stores	(D)	0	0	0	(D)	0	4	0	0	0	13598	0	0	5	9	1
Food stores	(D)	0	0	0	0	0	0	(D)	0	0	26528	0	0	0	1	0
Apparel and accessory stores	13	0	0	0	0	0	0	0	0	13	5151	1	0	(D)	11	0
Other	183	(D)	8	8	(D)	77	28	3	0	20	13611	0	2	(D)	296	3
Finance, except banking	(D)	334	0	(D)	0	75	(D)	(D)	0	(D)	(D)	34380	796	264	(D)	8
Insurance	(D)	(D)	0	0	0	0	0	0	0	0	(*)	(D)	47743	(D)	19	0
Real estate	74	(*)	0	(D)	(*)	3	4	(*)	(D)	(D)	(D)	(D)	(D)	12295	129	550
Services	1473	294	519	29	176	226	160	1	(D)	(D)	135	40	276	277	19767	480
Hotels & other lodging places	0	0	0	0	0	0	0	0	0	0	13	0	0	108	2834	56
Business services	563	(D)	(D)	3	10	107	(D)	(*)	(D)	(D)	83	(D)	(D)	1	8121	(D)
Computer & data proc. serv.	51	0	30	0	2	(D)	5	(*)	0	(D)	(D)	0	(D)	1	2014	(D)
Other business services	512	(D)	(D)	3	7	(D)	(D)	0	(D)	11	(D)	(D)	(D)	(*)	6108	61
Motion pictures	(*)	0	0	0	(*)	0	0	0	0	0	0	0	0	0	(D)	0
Engineering & arch. services	110	(D)	0	(D)	5	69	0	0	0	0	1	0	0	1	1843	292
Account., resch. & mgmt. serv.	121	(D)	(D)	(D)	33	12	(D)	(*)	(*)	8	3	(D)	(D)	6	1061	(D)
Health services	3	0	0	0	0	0	0	0	0	3	0	0	0	(D)	(D)	0
Other services	675	240	232	7	128	38	22	(*)	1	7	35	(*)	(*)	(D)	(D)	46
Other industries	2027	4	0	67	(D)	70	(D)	204	(D)	214	16	(D)	(D)	91	784	27943
Agriculture, forestry, & fish.	1257	0	0	0	0	(D)	(D)	(D)	(D)	8	0	(*)	0	(D)	(D)	1286
Mining	(D)	0	0	(D)	(D)	0	0	0	0	205	(D)	0	0	2	0	5680
Coal	(D)	0	0	0	0	0	0	0	0	(D)	0	0	0	2	0	2416
Other	(D)	0	0	(D)	(D)	0	0	0	0	(D)	(D)	0	0	(*)	0	3264
Construction	(D)	0	0	(D)	(D)	0	(*)	0	0	0	(D)	0	0	71	103	8320
Transportation	182	4	0	0	(*)	(D)	0	(D)	(D)	(*)	(D)	(D)	0	0	115	10879
Communication & pub. utilities	5	0	0	0	4	0	0	0	0	1	0	0	(D)	(D)	(D)	1778
Unspecified	2190	24	(*)	1177	642	(D)	4	0	(*)	(D)	1	3	0	(*)	(D)	(*)

Table 45a.--Sales by Affiliates, Industry of Sales by Industry of Affiliate, 1989

[Millions of dollars]

For the distribution by industry of sales, read the column. For the distribution by industry of affiliate, read the row.	All industries	Petroleum	Manufacturing									
			Total	Food and kindred products	Chemicals and allied products					Primary and fabricated metals		
					Total	Industrial chemicals and synthetics	Drugs	Soap, cleaners, and toilet goods	Other	Total	Primary metal industries	Fabricated metal products
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
All industries	1056645	93325	353063	42633	92734	59844	17516	12900	2474	51727	26499	25228
Petroleum	113570	81428	6139	0	(D)	(D)	0	(D)	0	4	3	1
Petroleum & coal prods. manuf.	53864	(D)	(D)	0	(D)	(D)	0	(D)	0	0	0	0
Other	59706	(D)	(D)	0	(D)	(D)	0	0	0	4	3	1
Manufacturing	337664	8075	299658	36965	77077	47349	15200	12112	2416	44404	24295	20109
Food and kindred products	45613	(D)	40491	36439	3987	(D)	(D)	3762	2	(D)	0	(D)
Beverages	7355	0	6891	(D)	(D)	1	(D)	(D)	0	0	0	0
Other	38259	(D)	33599	(D)	(D)	(D)	(D)	(D)	2	(D)	0	(D)
Chemicals and allied products	77235	6184	69596	267	66493	41703	14375	8093	2322	1045	998	46
Industrial chemicals	39410	(D)	34038	3	31853	30569	(D)	(D)	48	1044	998	46
Drugs	15613	0	15184	(D)	15037	3516	11521	0	0	0	0	0
Soap, cleaners, & toiletries	9145	0	(D)	(D)	8893	720	813	7360	0	0	0	0
Other	13066	(D)	(D)	4	10711	6899	(D)	(D)	2273	(*)	(*)	0
Primary and fabricated metals	39230	(D)	37634	0	(D)	0	0	0	(D)	35966	21438	14528
Primary metal industries	23484	(D)	22191	0	(D)	0	0	0	(D)	21750	21115	634
Ferrous	10972	(D)	10450	0	0	0	0	0	0	10227	9646	582
Nonferrous	12512	(D)	11742	0	(D)	0	0	0	(D)	11522	11470	52
Fabricated metal products	15746	0	15442	0	0	0	0	0	0	14216	322	13894
Machinery	69883	(D)	61960	(D)	(D)	(D)	(D)	(D)	(D)	3258	615	2643
Machinery, except electrical	32688	(D)	29956	4	570	493	0	(D)	(D)	1573	(D)	(D)
Computer & office equip.	7490	0	6883	0	0	0	0	0	0	(D)	(D)	(D)
Other	25199	(D)	23073	4	570	493	0	(D)	(D)	(D)	137	(D)
Electric & electronic equip.	37195	(D)	32004	(D)	(D)	(D)	(D)	(D)	(D)	1686	(D)	(D)
Audio, video, & comm.	13141	0	10232	(D)	(D)	0	(D)	0	0	(D)	(D)	0
Electronic components	9557	(D)	8179	4	(D)	(D)	0	0	0	265	(D)	(D)
Other	14496	0	13592	(D)	(D)	0	0	(D)	(D)	(D)	(D)	(D)
Other manufacturing	105703	(D)	89977	(D)	5705	5012	517	(D)	(D)	(D)	1244	(D)
Textile products and apparel	5287	0	5245	0	(D)	(D)	0	0	2	0	0	0
Lumber and furniture	2554	0	2278	(D)	0	0	0	0	0	(D)	0	(D)
Paper and allied products	8724	0	7893	(D)	0	0	0	0	0	(D)	(D)	0
Printing and publishing	15042	0	13787	0	(D)	(D)	0	0	0	(D)	(D)	2
Newspapers	1797	0	(D)	0	0	0	0	0	0	0	0	0
Other	13245	0	(D)	0	(D)	(D)	0	0	0	(D)	(D)	2
Rubber products	7578	0	6150	0	(D)	(D)	0	0	0	(D)	0	(D)
Misc. plastics products	6834	0	6609	0	1969	(D)	(D)	0	0	180	(D)	(D)
Stone, clay, & glass products	15197	(D)	14490	(D)	(D)	(D)	0	0	(D)	880	501	379
Transportation equipment	25307	0	15673	0	(D)	0	(D)	0	0	(D)	(D)	(D)
Motor vehicles & equipment	21648	0	12069	0	0	0	0	0	0	538	(D)	(D)
Other	3659	0	3604	0	(D)	0	(D)	0	0	(D)	0	(D)
Instruments and related prods.	11977	0	10994	(D)	2829	2310	(D)	(D)	0	(D)	(D)	896
Other	7201	0	6859	8	47	(D)	0	(D)	0	(D)	(D)	(D)
Wholesale trade	310893	741	20628	3391	4080	2677	1358	6	39	3589	1490	2099
Motor vehicles and equipment	67028	0	1321	0	0	0	0	0	0	(D)	(D)	(D)
Professional & commer. equip.	17212	0	1639	0	(D)	(D)	(D)	0	0	0	0	0
Metals and minerals	40083	(D)	3190	0	(D)	(D)	0	0	0	2835	(D)	(D)
Electrical goods	29223	0	2867	0	(D)	1	0	0	(D)	(D)	3	(D)
Machinery & equipment	24869	5	2078	0	247	244	0	0	3	63	0	63
Other durable goods	29556	(D)	(D)	3	4	(*)	0	4	0	223	(D)	(D)
Groceries and related products	21527	0	1350	(D)	0	0	0	0	0	0	0	0
Farm product raw materials	42588	0	(D)	(D)	0	0	0	0	0	0	0	0
Other nondurable goods	38806	(D)	6771	1594	3145	1910	(D)	2	(D)	(D)	(D)	(*)
Retail trade	78458	281	5820	1269	18	0	(D)	0	(D)	(D)	(D)	0
General merchandise stores	19523	0	(D)	3	0	0	0	0	0	(D)	(D)	0
Food stores	30766	(D)	0	0	0	0	0	0	0	0	0	0
Apparel and accessory stores	6317	0	124	0	0	0	0	0	0	0	0	0
Other	21852	(D)	(D)	1265	18	0	(D)	0	(D)	0	0	0
Finance, except banking	45685	1	288	(D)	0	0	0	0	0	1	0	1
Insurance	54534	(D)	(D)	0	0	0	0	0	0	0	0	0
Real estate	15889	2	(D)	(D)	(*)	(*)	0	0	0	7	(*)	7
Services	36860	309	5553	204	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Hotels & other lodging places	4201	(D)	(D)	(D)	0	0	0	0	0	0	0	0
Business services	15474	(D)	2517	(D)	(D)	(D)	4	(D)	3	(D)	0	(D)
Computer & data proc. serv.	4612	0	1312	0	0	0	0	0	0	1	0	1
Other business services	10862	(D)	1204	(D)	(D)	(D)	4	(D)	3	(D)	0	(D)
Motion pictures	3018	0	0	0	0	0	0	0	0	0	0	0
Engineering & arch. services	5277	0	1784	0	3	3	0	0	0	(D)	(D)	(D)
Account., resch. & mgmt. serv.	2821	(D)	706	0	(D)	3	(D)	1	(D)	11	(D)	(D)
Health services	1343	0	0	0	0	0	0	0	0	0	0	0
Other services	4727	(D)	(D)	0	(D)	(D)	0	(*)	0	(D)	(*)	(D)
Other industries	51851	1149	5194	26	2149	(D)	0	(D)	0	918	377	540
Agriculture, forestry, & fish.	4285	(D)	570	(D)	(D)	0	0	(D)	0	(*)	0	(*)
Mining	11417	1016	2688	0	(D)	(D)	0	0	0	342	(D)	(D)
Coal	3972	(D)	(D)	0	(D)	(D)	0	0	0	(D)	(D)	0
Other	7445	(D)	(D)	0	0	0	0	0	0	(D)	188	(D)
Construction	13053	2	1517	(*)	0	0	0	0	0	(D)	(D)	(D)
Transportation	19775	(D)	260	(D)	(D)	(D)	0	0	0	(D)	(D)	0
Communication & pub. utilities	3322	0	160	0	0	0	0	0	0	0	0	0
Unspecified	11242	(D)	8426	(D)	3335	2755	418	163	0	1387	(D)	(D)

Table 45b.—Sales by Affiliates, Industry of Sales by Industry of Affiliate, 1989—Continued

[Millions of dollars]

	Manufacturing, continued															
	Machinery			Other manufacturing												
	Total	Machinery, except electrical	Electric and electronic equipment	Total	Textile products and apparel	Lumber, wood, furniture, and fixtures	Paper and allied products	Printing and publishing	Rubber products	Miscellaneous plastics products	Stone, clay, and glass products	Transportation equipment			Instruments and related products	Other
												Total	Motor vehicles and equipment	Other		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
All industries	71575	35357	36218	94395	5616	1684	7853	14557	7554	4618	16820	16374	12629	3745	8602	10716
Petroleum	92	(D)	(D)	(D)	0	(D)	0	3	0	8	241	0	0	0	(D)	0
Petroleum & coal prods. manuf.	0	0	0	(D)	0	0	0	0	0	0	(D)	0	0	0	0	0
Other	92	(D)	(D)	(D)	0	(D)	0	3	0	8	(D)	0	0	0	(D)	0
Manufacturing	61195	30734	30461	80016	5332	1475	7338	12735	6006	4553	14598	14393	11182	3211	7231	6357
Food and kindred products	0	0	0	(D)	0	0	(D)	0	0	1	0	0	0	0	0	5
Beverages	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	(D)	0	0	(D)	0	0	1	0	0	0	0	0	5
Chemicals and allied products	941	(D)	(D)	851	(D)	0	0	(D)	(D)	2	(D)	(D)	(D)	0	297	0
Industrial chemicals	903	(D)	(D)	234	0	0	0	(D)	(D)	0	0	(D)	(D)	0	0	0
Drugs	0	0	0	(D)	0	0	0	0	0	0	0	0	0	0	(D)	0
Soap, cleaners, & toiletries	(D)	(D)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	(D)	0	(D)	(D)	(D)	0	0	0	(D)	2	(D)	0	0	0	(D)	0
Primary and fabricated metals	718	(D)	(D)	(D)	(D)	13	(D)	27	0	66	66	(D)	(D)	9	138	(D)
Primary metal industries	(D)	(D)	(D)	(D)	(D)	0	0	0	0	0	(D)	18	9	9	(D)	0
Ferrous	187	187	0	35	0	0	0	0	0	0	(D)	(D)	0	(D)	(D)	0
Nonferrous	(D)	(D)	(D)	(D)	(D)	0	0	0	0	0	0	(D)	9	(D)	(D)	0
Fabricated metal products	(D)	(D)	140	(D)	(D)	13	(D)	27	0	66	(D)	(D)	(D)	0	(D)	(D)
Machinery	55829	27239	28590	1939	26	0	2	(D)	(D)	134	(D)	715	33	682	883	7
Machinery, except electrical	26873	25845	1028	937	26	0	0	(D)	(D)	134	2	266	(D)	(D)	387	5
Computer & office equip.	6667	6520	147	(D)	0	0	0	(D)	0	0	0	0	0	0	(D)	0
Other	20206	19325	881	(D)	26	0	0	(D)	(D)	134	2	266	(D)	(D)	(D)	5
Electric & electronic equip.	28956	1394	27562	1002	0	0	2	4	(D)	0	(D)	449	(D)	(D)	496	3
Audio, video, & comm.	9666	43	9623	216	0	0	0	4	0	0	0	(D)	0	(D)	(D)	0
Electronic components	7316	205	7111	(D)	0	0	2	0	0	0	(D)	290	0	290	135	3
Other	11974	1147	10828	(D)	0	0	0	0	(D)	0	0	(D)	(D)	(D)	(D)	0
Other manufacturing	3707	2316	1392	(D)	4963	1462	7042	12671	5612	4350	14468	13482	10962	2520	5913	(D)
Textile products and apparel	(D)	(D)	1	4835	4694	0	2	0	(D)	(*)	(D)	0	0	0	0	0
Lumber and furniture	353	(D)	(D)	1770	0	1444	175	0	0	0	(D)	0	0	0	(D)	(D)
Paper and allied products	0	0	0	7850	17	0	6773	0	0	(D)	0	0	0	0	0	(D)
Printing and publishing	(D)	(D)	0	12670	3	0	0	12667	0	0	0	0	0	0	0	0
Newspapers	0	0	0	(D)	0	0	0	(D)	0	0	0	0	0	0	0	0
Other	(D)	(D)	0	(D)	3	0	0	(D)	0	0	0	0	0	0	0	0
Rubber products	(D)	0	(D)	5823	(D)	0	0	0	5300	420	0	(D)	(D)	(D)	(D)	0
Misc. plastics products	38	(D)	(D)	4422	(D)	0	(D)	4	(D)	3529	(D)	1	0	1	0	(D)
Stone, clay, & glass products	124	(D)	(D)	13422	0	0	0	0	0	(D)	13374	(D)	(D)	0	0	(D)
Transportation equipment	370	290	80	13748	0	0	0	0	(D)	(D)	(D)	13425	10917	2508	(D)	0
Motor vehicles & equipment	178	(D)	(D)	11353	0	0	0	0	(D)	(D)	(D)	11030	10912	118	(D)	0
Other	192	(D)	(D)	2395	0	0	0	0	0	0	0	2395	5	2390	0	0
Instruments and related prods.	1053	401	652	6137	0	18	0	0	0	5	390	7	(D)	(D)	5704	13
Other	987	839	148	(D)	75	(*)	(D)	0	0	(D)	(D)	(D)	(D)	0	(D)	5218
Wholesale trade	4851	1095	3755	4717	148	43	428	(D)	632	23	418	1624	1225	399	564	(D)
Motor vehicles and equipment	(D)	(D)	(D)	1270	0	0	0	0	(D)	0	0	(D)	(D)	0	0	0
Professional & commer. equip.	(D)	(D)	(D)	145	0	0	0	0	0	0	0	0	0	0	145	0
Metals and minerals	(D)	0	(D)	305	(D)	0	0	0	(D)	0	(D)	(D)	(D)	0	0	0
Electrical goods	2236	19	2216	235	0	0	0	(D)	0	2	(D)	0	0	0	(D)	0
Machinery & equipment	1147	504	643	622	0	4	3	4	0	5	0	399	(*)	399	(D)	(D)
Other durable goods	17	17	0	(D)	0	(D)	(D)	0	(D)	12	329	0	0	0	6	(D)
Groceries and related products	0	0	0	(D)	(D)	4	(D)	0	0	0	0	0	0	0	0	0
Farm product raw materials	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other nondurable goods	(D)	529	(D)	1419	139	(D)	310	(D)	(D)	4	(D)	0	0	0	(D)	(D)
Retail trade	192	(D)	(D)	(D)	(D)	(*)	0	145	(D)	3	(D)	(D)	(D)	(D)	0	(D)
General merchandise stores	3	3	0	(D)	0	0	0	(D)	0	1	1	0	0	0	0	(D)
Food stores	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apparel and accessory stores	(D)	(D)	0	(D)	(D)	0	0	0	0	0	0	0	0	0	0	0
Other	(D)	(D)	(D)	(D)	0	(*)	0	(D)	(D)	2	(D)	(D)	(D)	(D)	0	2
Finance, except banking	(D)	0	(D)	(D)	0	(*)	0	0	0	0	0	(D)	(D)	0	0	0
Insurance	0	0	0	(D)	0	0	0	(D)	0	0	0	0	0	0	1	(D)
Real estate	0	0	0	(D)	(D)	(D)	(D)	1	0	1	0	0	0	0	1	2
Services	1818	1325	494	1353	6	1	(D)	958	4	(D)	(D)	38	(D)	(D)	159	18
Hotels & other lodging places	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Business services	1094	1087	8	983	0	0	(D)	831	0	(D)	0	0	0	0	94	(D)
Computer & data proc. serv.	1051	1047	4	261	0	0	0	189	0	0	0	0	0	0	(D)	(D)
Other business services	44	40	4	722	0	0	(D)	642	0	(D)	0	0	0	0	(D)	(D)
Motion pictures	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Engineering & arch. services	491	(D)	(D)	(D)	0	0	0	0	0	0	(D)	6	6	0	6	0
Account., resch. & mgmt. serv.	(D)	(D)	(D)	58	(D)	0	1	(D)	0	3	(D)	(D)	0	(D)	20	0
Health services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other services	(D)	128	(D)	(D)	(D)	1	(D)	(D)	4	(*)	0	(D)	(D)	(D)	40	(D)
Other industries	362	71	290	1740	0	137	27	(D)	(D)	(D)	1401	(D)	0	(D)	6	0
Agriculture, forestry, & fish.	(D)	0	(D)	(D)	0	(D)	(D)	0	0	0	0	0	0	0	0	0
Mining	(D)	(D)	0	(D)	0	2	0	0	0	(D)	695	0	0	0	0	0
Coal	0	0	0	(D)	0	0	0	0	0	(D)	0	0	0	0	0	0
Other	(D)	(D)	0	697	0	2	0	0	0	0	695	0	0	0	0	0
Construction	(D)	0	(D)	704	0	(D)	0	0	0	0	(D)	0	0	0	1	0
Transportation	(D)	(D)	0	56	0	0	(D)	1	(D)	0	(D)	0	0	0	0	0
Communication & pub. utilities	(D)	(D)	0	(D)	0	0	5	(D)	0	0	2	(D)	0	(D)	6	0
Unspecified	(D)	(D)	1122	84	(*)	1	0	1	10	1	(D)	4	4	0	(D)	0

Table 45c.—Sales by Affiliates, Industry of Sales by Industry of Affiliate, 1989—Continued

[Millions of dollars]

For the distribution by industry of sales, read the column. For the distribution by industry of affiliate, read the row.	Wholesale trade										Retail trade	Finance, except banking	Insurance	Real estate	Services	Other industries
	Total	Motor vehicles and equipment	Professional and commercial equipment and supplies	Metals and minerals, except petroleum	Electrical goods	Machinery, equipment, and supplies	Other durable goods	Groceries and related products	Farm product raw materials	Other nondurable goods						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
All industries	347258	86615	17904	64753	31441	35322	24022	15000	46930	24383	72092	44014	54356	14909	30959	46669
Petroleum	25109	(D)	2	11606	(D)	(D)	3	(D)	5046	2	84	(*)	1	6	177	546
Petroleum & coal prods. manuf.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	84
Other	25189	(D)	2	11606	(D)	(D)	3	(D)	5846	2	04	(*)	1	6	177	462
Manufacturing	26122	11251	2113	1700	4233	751	400	337	2776	2401	413	(D)	0	(D)	1767	1598
Food and kindred products	3522	(D)	0	0	0	0	0	(D)	2774	(D)	(D)	0	0	(D)	(D)	78
Beverages	(D)	(D)	0	0	0	0	0	0	0	(D)	0	0	0	(D)	1	0
Other	(D)	1	0	0	0	0	0	(D)	2774	0	(D)	0	0	0	(D)	78
Chemicals and allied products	1218	0	(D)	422	0	30	0	0	0	(D)	0	0	0	0	0	237
Industrial chemicals	(D)	0	0	(D)	0	0	0	0	0	(D)	0	0	0	0	0	(D)
Drugs	(D)	0	(D)	0	0	0	0	0	0	(D)	0	0	0	0	0	(D)
Soap, cleaners, & toiletries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(D)
Other	504	0	0	(D)	0	30	0	0	0	(D)	0	0	0	0	0	(D)
Primary and fabricated metals	1038	(D)	(D)	039	(D)	(D)	111	0	2	0	0	0	0	0	(D)	80
Primary metal industries	852	0	0	763	(D)	0	(D)	0	0	0	0	0	0	0	7	(D)
Ferrous	(D)	0	0	(D)	0	0	(D)	0	0	0	0	0	0	0	7	(D)
Nonferrous	(D)	0	0	(D)	(D)	0	0	0	0	0	0	0	0	0	0	0
Fabricated metal products	186	(D)	(D)	76	0	(D)	(D)	0	2	0	0	0	0	0	(D)	(D)
Machinery	6528	259	1137	320	4087	634	21	0	(*)	70	0	0	0	(D)	519	663
Machinery, except electrical	1657	(D)	(D)	320	171	523	(D)	0	(*)	70	0	0	0	(D)	(D)	630
Computer & office equip.	(D)	0	(D)	(D)	(D)	(D)	0	0	0	5	0	0	0	0	(D)	0
Other	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0	(*)	65	0	0	0	(D)	(D)	630
Electric & electronic equip.	4871	(D)	(D)	0	3915	111	(D)	0	0	0	0	0	0	0	(D)	33
Audio, video, & comm.	2710	0	(D)	0	2217	(D)	0	0	0	0	0	0	0	0	(D)	(D)
Electronic components	1307	(D)	(D)	0	(D)	0	(D)	0	0	0	0	0	0	0	(*)	(D)
Other	854	0	(D)	0	(D)	(D)	1	0	0	0	0	0	0	0	(D)	(D)
Other manufacturing	13816	10926	719	118	(D)	(D)	349	(D)	0	1458	(D)	(D)	0	6	1152	540
Textile products and apparel	(D)	0	0	0	0	7	0	0	0	(D)	(D)	0	0	0	0	(D)
Lumber and furniture	242	0	5	0	0	0	(D)	0	0	(D)	(D)	0	0	(*)	0	(D)
Paper and allied products	032	0	0	0	0	0	0	0	0	032	0	0	0	0	0	0
Printing and publishing	117	0	(D)	0	0	0	(D)	0	0	(D)	0	0	0	0	1135	3
Newspapers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(D)	0
Other	117	0	(D)	0	0	0	(D)	0	0	(D)	0	0	0	0	(D)	3
Rubber products	(D)	(D)	0	5	0	(D)	0	0	0	(D)	(D)	0	0	0	0	0
Misc. plastics products	(D)	(D)	4	0	0	0	(D)	0	0	135	0	0	0	0	0	(D)
Stone, clay, & glass products	129	4	0	0	(D)	0	(D)	0	0	(D)	0	(*)	0	6	0	(D)
Transportation equipment	(D)	9556	(D)	0	0	2	0	0	0	6	0	(D)	0	0	1	(D)
Motor vehicles & equipment	(D)	9555	(D)	0	0	2	0	0	0	0	0	(D)	0	0	0	0
Other	6	(*)	0	0	0	0	0	0	0	6	0	(D)	0	0	1	(D)
Instruments and related prods.	949	0	650	113	(D)	15	(D)	0	0	26	(D)	0	0	0	(D)	(D)
Other	330	0	(D)	0	(D)	(D)	37	(D)	0	141	(D)	0	0	0	(D)	0
Wholesale trade	287751	71083	14926	50076	26374	29527	23215	14221	36740	21589	669	1	1	23	386	692
Motor vehicles and equipment	65606	63796	(D)	333	(D)	(D)	2	(D)	0	0	(D)	0	0	0	(D)	0
Professional & commer. equip.	15457	21	13764	89	1526	53	1	0	0	2	0	0	0	1	113	4
Metals and minerals	36187	(D)	(D)	30093	(D)	(D)	(D)	179	761	102	0	0	1	0	0	(D)
Electrical goods	26325	131	703	(D)	23515	6	39	(D)	0	(D)	5	0	0	0	24	1
Machinery & equipment	22611	917	137	3852	384	16005	(D)	(D)	(D)	23	(D)	0	0	5	132	(D)
Other durable goods	28496	(D)	(D)	1625	296	3117	22153	39	(D)	958	32	0	0	(D)	9	30
Groceries and related products	19776	(D)	0	(D)	(D)	(D)	(D)	13000	754	367	(D)	0	0	0	0	(D)
Farm product raw materials	42050	0	0	4802	(D)	(D)	301	545	33185	(D)	0	1	0	0	0	(D)
Other nondurable goods	31243	2292	67	4993	304	2453	197	291	050	19716	333	0	0	(D)	(D)	(D)
Retail trade	1009	(D)	274	(D)	(D)	03	30	(D)	0	111	70106	13	3	34	309	3
General merchandise stores	(D)	0	(D)	0	(D)	0	5	0	0	(D)	15850	0	0	(D)	11	1
Food stores	(D)	0	0	0	0	0	0	(D)	0	0	29639	0	0	0	1	0
Apparel and accessory stores	(D)	0	0	0	2	0	0	0	0	(D)	6140	(D)	0	(*)	14	0
Other	353	(D)	(D)	(D)	1	03	33	3	0	(D)	10477	(D)	3	(D)	283	2
Finance, except banking	679	531	0	(D)	0	80	2	(D)	0	22	(D)	43303	987	(D)	148	21
Insurance	(D)	(D)	0	0	0	0	0	0	0	0	1	201	52962	(D)	37	1
Real estate	(D)	0	0	(D)	1	4	4	(*)	(D)	4	440	(D)	(D)	14143	195	593
Services	1992	384	662	36	227	330	(D)	1	(D)	31	360	193	321	356	27066	709
Hotels & other lodging places	0	0	0	0	0	0	0	0	0	0	(D)	0	(D)	201	3742	(D)
Business services	858	(D)	281	5	(D)	224	(D)	(*)	(D)	12	157	(D)	(D)	3	11441	124
Computer & data proc. serv.	203	0	176	0	3	(D)	(D)	(*)	0	3	(D)	(*)	7	1	3029	(D)
Other business services	655	(D)	105	5	(D)	(D)	(D)	0	(D)	9	(D)	(D)	(D)	2	8411	(D)
Motion pictures	(*)	0	0	0	(*)	0	0	0	0	0	(D)	0	0	0	(D)	0
Engineering & arch. services	96	(D)	0	(D)	0	51	0	0	0	0	0	0	0	2	2942	452
Account., resch. & mgmt. serv.	103	(D)	4	(D)	(D)	15	0	(*)	0	7	(D)	30	(D)	4	1650	19
Health services	(D)	0	0	0	0	0	0	0	0	(D)	1	0	0	(D)	1270	0
Other services	(D)	319	377	11	(D)	48	14	0	1	(D)	(D)	(D)	(*)	(D)	(D)	(D)
Other industries	2031	4	0	57	1	(D)	(D)	262	(D)	142	(D)	7	(D)	50	866	42506
Agriculture, forestry, & fish.	1711	0	0	0	0	(D)	0	(D)	(D)	(D)	0	1	0	(D)	(*)	1938
Mining	106	0	0	57	0	0	0	0	0	129	0	0	0	(*)	0	7527
Coal	(D)	0	0	0	0	0	0	0	0	(D)	0	0	0	(*)	0	1440
Other	(D)	0	0	57	0	0	0	0	0	(D)	0	0	0	(*)	0	6086
Construction	5	0	0	0	1	0	(*)	0	0	4	(D)	(*)	(D)	(D)	95	11387
Transportation	128	4	0	0	0	(D)	(D)	(D)	(D)	(*)	(D)	5	0	1	(D)	19124
Communication & pub. utilities	1	0	0	0	0	0	0	0	0	1	0	0	(D)	1	(D)	2531
Unspecified	(D)	27	7	1157	1	(D)	4	0	6	(*)	(D)	2	0	(*)	7	(*)

Table 46a.—Sales by Affiliates, Industry of Sales by Industry of Affiliate, 1990

[Millions of dollars]

For the distribution by industry of sales, read the column. For the distribution by industry of affiliate, read the row.	All industries	Petroleum	Manufacturing									
			Total	Food and kindred products	Chemicals and allied products					Primary and fabricated metals		
					Total	Industrial chemicals and synthetics	Drugs	Soap, cleaners, and toilet goods	Other	Total	Primary metal industries	Fabricated metal products
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
All industries	1168490	116785	389115	44986	109394	68625	21716	14630	4423	52368	32319	20050
Petroleum	140327	102610	6316	1	(D)	(D)	0	(D)	(D)	(D)	(D)	1
Petroleum & coal prods. manuf.	67614	(D)	(D)	0	(D)	(D)	0	(D)	0	(D)	(D)	0
Other	72712	(D)	(D)	1	(D)	(D)	0	0	(D)	11	11	1
Manufacturing	370354	9135	327503	38408	86277	49831	18173	13967	4306	44790	28461	16329
Food and kindred products	48701	(D)	42753	38030	4628	(D)	(D)	4504	(D)	(D)	0	(D)
Beverages	7668	0	(D)	7151	(D)	1	0	(D)	0	0	0	0
Other	41033	(D)	(D)	30879	(D)	(D)	(D)	(D)	(D)	(D)	0	(D)
Chemicals and allied products	83936	6858	75139	(D)	72248	41764	17462	9126	3896	(D)	(D)	0
Industrial chemicals	39961	5336	34069	15	32271	30490	(D)	(D)	373	775	775	0
Drugs	18821	0	18439	(D)	18238	3625	14612	0	0	(D)	(D)	0
Soap, cleaners, & toiletries	10486	(D)	10354	(D)	10175	(D)	(D)	8247	0	(D)	(D)	0
Other	14668	(D)	12277	4	11564	(D)	(D)	(D)	3523	(*)	(*)	0
Primary and fabricated metals	42764	(D)	41302	0	(D)	(D)	0	0	(D)	38538	25327	13211
Primary metal industries	26454	(D)	25490	0	(D)	(D)	0	0	(D)	25211	24930	281
Ferrous	14341	(D)	13945	0	0	0	0	0	0	13775	13560	214
Nonferrous	12113	(D)	11546	0	(D)	(D)	0	0	(D)	11437	11370	67
Fabricated metal products	16310	0	15812	0	0	0	0	0	0	13326	397	12929
Machinery	75809	501	66115	(D)	(D)	1642	(D)	138	8	(D)	(D)	(D)
Machinery, except electrical	35355	(D)	31932	3	(D)	(D)	0	(D)	8	(D)	(D)	(D)
Computer & office equip.	8702	(D)	7849	0	0	0	0	0	0	(D)	(D)	(D)
Other	26653	357	24083	3	(D)	(D)	0	(D)	8	(D)	286	(D)
Electric & electronic equip.	40454	(D)	34183	(D)	722	(D)	(D)	(D)	0	(D)	289	(D)
Audio, video, & comm.	15431	5	11590	(D)	0	0	0	0	0	(D)	(D)	0
Electronic components	10631	(D)	9228	4	(*)	(*)	0	0	0	180	(D)	(D)
Other	14392	0	13365	0	722	(D)	(D)	(D)	0	(D)	1	(D)
Other manufacturing	119144	(D)	102195	192	7540	6388	595	200	357	3757	1517	2240
Textile products and apparel	6133	0	5849	0	280	(D)	0	0	(D)	(D)	0	(D)
Lumber and furniture	3101	0	2793	(D)	0	0	0	0	0	(D)	0	(D)
Paper and allied products	9159	0	8282	0	0	0	0	0	0	(D)	(D)	0
Printing and publishing	15768	0	14236	(D)	(D)	(D)	0	0	0	0	0	0
Newspapers	2246	0	(D)	0	0	0	0	0	0	0	0	0
Other	13522	0	(D)	(D)	(D)	(D)	0	0	0	0	0	0
Rubber products	8625	0	7421	0	(D)	(D)	0	0	(*)	(D)	0	(D)
Misc. plastics products	8058	0	7819	2	2360	(D)	0	0	(D)	397	(D)	(D)
Stone, clay, & glass products	15451	(D)	14879	0	76	(D)	0	(D)	(D)	880	732	147
Transportation equipment	31084	0	20770	0	(D)	(D)	(D)	0	0	1657	(D)	(D)
Motor vehicles & equipment	26327	0	(D)	0	(D)	(D)	0	0	0	(D)	(D)	(D)
Other	4758	0	(D)	0	(D)	0	(D)	0	0	(D)	0	(D)
Instruments and related prods.	13712	(D)	12409	(D)	3086	2417	(D)	(D)	0	(D)	60	(D)
Other	8053	0	7737	3	(D)	(D)	0	9	(D)	(D)	(D)	116
Wholesale trade	340185	723	26308	3274	5417	3819	1519	8	71	5239	3300	1939
Motor vehicles and equipment	71796	0	1473	0	0	0	0	0	0	(D)	(D)	(D)
Professional & commer. equip.	17907	0	2296	0	(D)	(D)	(D)	0	0	0	0	0
Metals and minerals	53887	(D)	4624	0	(D)	(D)	0	0	0	4566	(D)	(D)
Electrical goods	30837	0	4325	0	(D)	0	0	0	(D)	(D)	28	(D)
Machinery & equipment	26728	5	2583	0	169	169	0	0	0	57	(*)	56
Other durable goods	33884	(D)	957	4	6	1	0	5	0	61	(D)	(D)
Groceries and related products	23510	0	(D)	(D)	0	0	0	0	0	0	0	0
Farm product raw materials	41410	0	(D)	(D)	0	0	0	0	0	0	0	0
Other nondurable goods	40226	(D)	9069	2348	4546	3101	(D)	3	(D)	(D)	(D)	(*)
Retail trade	83614	370	5991	(D)	6	0	0	(*)	6	2	0	2
General merchandise stores	12499	(D)	(D)	6	(*)	0	0	(*)	0	0	0	0
Food stores	41256	292	(D)	(D)	0	0	0	0	0	0	0	0
Apparel and accessory stores	7621	0	125	0	0	0	0	0	0	0	0	0
Other	22238	(D)	(D)	(D)	6	0	0	0	6	2	0	2
Finance, except banking	32146	(D)	(D)	(D)	0	0	0	0	0	(D)	(D)	0
Insurance	61450	(D)	(D)	0	0	0	0	0	0	0	0	0
Real estate	17807	15	107	(D)	2	1	0	1	0	(D)	(*)	(D)
Services	45298	430	6703	216	(D)	(D)	1519	(D)	27	(D)	(D)	164
Hotels & other lodging places	5646	(D)	(D)	(D)	0	0	0	0	0	0	0	0
Business services	18163	202	2773	(D)	(D)	(D)	5	(D)	3	(D)	(D)	(D)
Computer & data proc. serv.	6201	(D)	1787	0	0	0	0	0	0	1	0	1
Other business services	11962	(D)	985	(D)	(D)	(D)	5	(D)	3	(D)	(D)	(D)
Motion pictures	5280	0	0	0	0	0	0	0	0	0	0	0
Engineering & arch. services	4974	0	1544	0	(D)	3	(D)	0	1	(D)	(D)	(D)
Account., resch. & mgmt. serv.	3659	(D)	1765	(D)	(D)	18	(D)	1	(D)	4	4	0
Health services	1635	0	(D)	0	(D)	0	(D)	0	0	0	0	0
Other services	5941	(D)	501	2	(D)	(D)	0	(*)	(D)	(D)	(*)	(D)
Other industries	65256	1020	7574	21	4437	3829	(D)	(D)	(D)	1058	363	695
Agriculture, forestry, & fish.	4589	(D)	779	(D)	638	(D)	(D)	(D)	0	0	0	0
Mining	14355	842	4641	0	(D)	(D)	0	0	0	281	(D)	(D)
Coal	6003	(D)	(D)	0	(D)	(D)	0	0	0	1	1	0
Other	8352	(D)	(D)	0	0	0	0	0	0	280	(D)	(D)
Construction	13842	1	1652	0	(D)	0	(D)	0	(*)	756	(D)	(D)
Transportation	27688	104	323	(D)	(D)	(D)	0	0	(D)	21	21	0
Communication & pub. utilities	4782	(D)	179	(*)	0	0	0	0	0	0	0	0
Unspecified	12053	(D)	8301	(D)	5300	4977	(D)	(D)	0	1042	(D)	(D)

Table 46b.—Sales by Affiliates, Industry of Sales by Industry of Affiliate, 1990—Continued

[Millions of dollars]

For the distribution by industry of sales, read the column. For the distribution by industry of affiliate, read the row.	Manufacturing, continued															
	Machinery			Other manufacturing												
	Total	Machinery, except electrical	Electric and electronic equipment	Total	Textile products and apparel	Lumber, wood, furniture, and fixtures	Paper and allied products	Printing and publishing	Rubber products	Miscellaneous plastics products	Stone, clay, and glass products	Transportation equipment: Total	Transportation equipment: Motor vehicles and equipment	Transportation equipment: Other	Instruments and related products	Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
All industries	79607	35452	44154	102761	5794	2774	9160	17099	9771	4778	17549	19687	15600	4087	8416	7732
Petroleum	(D)	0	(D)	298	0	(D)	0	8	(D)	0	268	0	0	0	0	0
Petroleum & coal prods. manuf.	0	0	0	(D)	0	0	0	0	0	0	(D)	0	0	0	0	0
Other	(D)	0	(D)	(D)	0	(D)	0	8	(D)	0	(D)	0	0	0	0	0
Manufacturing	67426	30303	37123	90602	5544	2290	8576	14504	7571	4729	15042	18633	14931	3702	7780	5982
Food and kindred products	0	0	0	(D)	0	0	(D)	0	0	1	0	0	0	0	0	(D)
Beverages	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	(D)	0	0	(D)	0	0	1	0	0	0	0	0	(D)
Chemicals and allied products	821	(D)	(D)	1011	(*)	(D)	0	1	(D)	10	(D)	9	9	0	(D)	0
Industrial chemicals	580	(D)	(D)	428	0	(D)	0	0	(D)	(D)	0	9	9	0	0	0
Drugs	0	0	0	(D)	0	0	0	0	0	0	0	0	0	0	(D)	0
Soap, cleaners, & toiletries	(D)	(D)	0	(D)	(*)	0	0	0	0	0	0	0	0	0	(D)	0
Other	(D)	0	(D)	(D)	0	0	0	1	(D)	(D)	(D)	0	0	0	(D)	0
Primary and fabricated metals	2052	(D)	(D)	(D)	(D)	(D)	(D)	40	0	(D)	47	9	0	9	(D)	0
Primary metal industries	(D)	(D)	0	(D)	(D)	(D)	0	0	0	0	0	7	0	7	(D)	0
Ferrous	(D)	(D)	0	(D)	0	(D)	0	0	0	0	0	(D)	0	(D)	(D)	0
Nonferrous	0	0	0	(D)	(D)	0	0	0	0	0	0	(D)	0	(D)	1	0
Fabricated metal products	(D)	465	(D)	(D)	(D)	0	(D)	40	0	(D)	47	2	0	2	(D)	0
Machinery	60267	28169	32098	2436	(D)	(D)	(D)	888	(D)	(D)	(D)	482	37	445	685	(D)
Machinery, except electrical	28631	26723	1908	1097	(D)	0	0	(D)	(D)	(D)	7	171	(D)	(D)	204	(D)
Computer & office equip.	7703	7461	242	(D)	0	0	0	(D)	0	0	2	5	0	5	4	0
Other	20929	19262	1666	(D)	(D)	0	0	(D)	(D)	(D)	5	167	(D)	(D)	200	(D)
Electric & electronic equip.	31636	1446	30190	1339	0	(D)	(D)	(D)	0	0	(D)	311	(D)	(D)	481	2
Audio, video, & comm.	10873	47	10826	(D)	0	0	0	(D)	0	0	0	0	0	0	7	0
Electronic components	8592	1149	7444	452	0	0	0	(D)	0	0	(D)	(D)	0	(D)	155	2
Other	12170	250	11920	(D)	0	(D)	(D)	0	0	0	0	(D)	(D)	(D)	319	0
Other manufacturing	4286	1556	2730	86419	5411	2020	8246	13575	7014	4552	14921	18133	14885	3248	6630	5916
Textile products and apparel	(D)	(D)	0	5471	5263	0	0	0	(D)	(*)	(D)	0	0	0	0	0
Lumber and furniture	389	(D)	(D)	2223	0	1950	101	0	0	0	46	0	0	0	(D)	(D)
Paper and allied products	(D)	(D)	0	8237	0	0	8026	0	0	(D)	0	0	0	0	0	(D)
Printing and publishing	(D)	(D)	0	13579	4	0	0	13575	0	0	0	0	0	0	0	0
Newspapers	0	0	0	(D)	0	0	0	(D)	0	0	0	0	0	0	0	0
Other	(D)	(D)	0	(D)	4	0	0	(D)	0	0	0	0	0	0	0	0
Rubber products	(D)	(D)	(D)	6894	(D)	0	0	0	6565	(D)	0	25	(D)	(D)	(D)	0
Misc. plastics products	200	(D)	(D)	4859	(D)	0	(D)	0	(D)	3923	(D)	0	0	0	0	(D)
Stone, clay, & glass products	144	(D)	(D)	13779	0	(D)	0	0	0	3	13673	(D)	(D)	0	0	(D)
Transportation equipment	(D)	(D)	167	18384	0	0	0	0	(D)	(D)	(D)	18043	14855	3188	(D)	0
Motor vehicles & equipment	(D)	(D)	(D)	15289	0	0	0	0	0	(D)	(D)	15044	14850	194	(D)	0
Other	(D)	246	(D)	3096	0	0	0	0	(D)	0	(D)	2999	5	2994	0	0
Instruments and related prods.	1952	465	1487	6946	0	(D)	0	0	0	7	(D)	(D)	(D)	(D)	6437	(D)
Other	462	111	350	6045	72	0	(D)	0	(D)	68	(D)	0	0	0	(D)	5654
Wholesale trade	7324	3021	4303	5053	176	(D)	552	(D)	1195	42	462	763	(D)	(D)	510	535
Motor vehicles and equipment	(D)	8	(D)	1334	0	0	0	0	(D)	0	0	(D)	(D)	0	0	0
Professional & commer. equip.	(D)	(D)	(D)	206	0	0	0	3	0	0	0	0	0	0	203	0
Metals and minerals	(D)	0	(D)	(D)	3	0	0	0	0	0	(D)	0	0	0	0	0
Electrical goods	3815	(D)	(D)	105	0	0	0	(D)	0	(D)	(D)	0	0	0	(D)	0
Machinery & equipment	1800	1002	798	557	0	6	5	(D)	0	(D)	(D)	(D)	(*)	(D)	206	(D)
Other durable goods	30	30	0	857	0	(D)	(D)	(D)	(D)	14	278	0	0	0	7	(D)
Groceries and related products	0	0	0	(D)	0	2	(D)	0	0	0	0	0	0	0	0	0
Farm product raw materials	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other nondurable goods	(D)	174	(D)	1893	173	3	400	(D)	(D)	18	30	0	0	0	(D)	(D)
Retail trade	(D)	(D)	0	3115	(D)	1	0	712	(D)	2	(D)	(D)	0	(D)	0	(D)
General merchandise stores	2	2	0	(D)	0	0	0	(D)	0	1	1	0	0	0	0	(D)
Food stores	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apparel and accessory stores	(D)	(D)	0	(D)	(D)	0	0	0	0	0	0	0	0	0	0	0
Other	(D)	(D)	0	1790	0	1	0	(D)	(D)	2	(D)	(D)	0	(D)	0	0
Finance, except banking	(D)	(D)	(D)	(D)	0	0	0	2	0	0	0	(D)	(D)	8	0	0
Insurance	0	0	0	(D)	0	0	0	(D)	4	0	0	0	0	0	1	0
Real estate	2	1	(*)	17	(D)	(*)	2	(D)	0	(*)	0	0	0	0	3	(*)
Services	2853	1567	1286	1454	0	2	52	1127	(D)	3	(D)	54	21	33	91	(D)
Hotels & other lodging places	(*)	0	(*)	0	0	0	0	0	0	0	0	0	0	0	0	0
Business services	1204	1194	10	1089	0	0	(D)	1029	0	0	0	(D)	0	(D)	20	(*)
Computer & data proc. serv.	1124	1118	6	662	0	0	0	660	0	0	0	1	0	1	0	(*)
Other business services	80	76	4	428	0	0	(D)	369	0	0	0	(D)	0	(D)	20	0
Motion pictures	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Engineering & arch. services	1265	162	1104	109	0	0	0	0	0	0	(D)	(D)	(D)	(D)	6	0
Account., resch. & mgmt. serv.	222	(D)	(D)	66	0	0	1	(D)	0	3	3	(D)	(D)	3	11	0
Health services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other services	161	(D)	(D)	189	0	2	(D)	(D)	(D)	(*)	0	(D)	0	(D)	54	(D)
Other industries	147	(D)	(D)	1910	2	237	27	(D)	(D)	0	1456	(D)	0	(D)	10	0
Agriculture, forestry, & fish.	0	0	0	(D)	0	(D)	(D)	0	0	0	0	0	0	0	0	0
Mining	(D)	(D)	0	754	0	(D)	0	0	(D)	0	710	0	0	0	0	0
Coal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	(D)	(D)	0	754	0	(D)	0	0	(D)	0	710	0	0	0	0	0
Construction	(D)	0	(D)	763	2	(D)	0	0	0	0	691	0	0	0	(D)	0
Transportation	1	1	0	90	0	0	(D)	2	(D)	0	54	0	0	0	0	0
Communication & pub. utilities	(D)	0	(D)	(D)	0	0	0	(D)	0	0	2	(D)	0	(D)	(D)	0
Unspecified	1471	223	1248	(D)	0	1	0	1	0	1	(D)	4	4	0	22	0

Table 46c.—Sales by Affiliates, Industry of Sales by Industry of Affiliate, 1990—Continued

[Millions of dollars]

For the distribution by industry of sales, read the column. For the distribution by industry of affiliate, read the row.	Wholesale trade										Retail trade	Finance, except banking	Insurance	Real estate	Services	Other industries
	Total	Motor vehicles and equipment	Professional and commercial equipment and supplies	Metals and minerals, except petroleum	Electrical goods	Machinery, equipment, and supplies	Other durable goods	Groceries and related products	Farm product raw materials	Other nondurable goods						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
All industries	381462	94338	15903	79362	34980	36741	28242	20006	45863	26027	76074	29087	63377	17412	37930	57248
Petroleum	31136	(D)	0	17284	339	(D)	5	(D)	5329	(D)	100	(*)	(D)	(D)	1	149
Petroleum & coal prods. manuf.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37
Other	31136	(D)	0	17284	339	(D)	5	(D)	5329	(D)	100	(*)	(D)	(D)	1	112
Manufacturing	27822	11653	1080	2165	5371	886	678	466	2685	2839	1037	(D)	0	(D)	3261	1502
Food and kindred products	3593	(D)	(D)	0	0	0	0	466	2685	(D)	(D)	0	0	6	(D)	(D)
Beverages	(D)	(D)	0	0	0	0	0	0	0	(D)	0	0	0	6	2	0
Other	(D)	1	(D)	0	0	0	0	466	2685	0	(D)	0	0	0	(D)	(D)
Chemicals and allied products	1922	0	(D)	554	0	9	(D)	0	0	879	0	(D)	0	0	0	(D)
Industrial chemicals	544	0	0	(D)	0	0	(D)	0	0	104	0	(D)	0	0	0	(D)
Drugs	383	0	(D)	(D)	0	0	0	0	0	49	0	0	0	0	0	0
Soap, cleaners, & toiletries	(D)	0	0	0	0	0	0	0	0	(D)	0	0	0	0	0	0
Other	(D)	0	0	260	0	9	0	0	0	(D)	0	0	0	0	0	5
Primary and fabricated metals	1190	(D)	11	936	0	29	(D)	0	0	(D)	(D)	0	0	10	(D)	46
Primary metal industries	863	0	0	744	0	0	(D)	0	0	(D)	0	0	0	0	6	(D)
Ferrous	(D)	0	0	(D)	0	0	(D)	0	0	0	0	0	0	0	6	(D)
Nonferrous	(D)	0	0	(D)	0	0	0	0	0	(D)	0	0	0	0	0	0
Fabricated metal products	328	(D)	11	192	0	29	(D)	0	0	0	(D)	0	0	10	(D)	(D)
Machinery	6969	436	65	349	5201	795	100	0	0	23	0	0	0	(*)	1502	721
Machinery, except electrical	1861	(D)	65	(D)	528	649	(D)	0	0	23	0	0	0	0	(D)	721
Computer & office equip.	739	(D)	(D)	(D)	(D)	(D)	0	0	0	(D)	0	0	0	0	(D)	0
Other	1122	218	(D)	256	(D)	(D)	(D)	0	0	(D)	0	0	0	0	370	721
Electric & electronic equip.	5108	(D)	0	(D)	4672	146	(D)	0	0	0	0	0	0	(*)	(D)	0
Audio, video, & comm.	2852	0	0	0	2845	7	0	0	0	0	0	0	0	0	984	0
Electronic components	(D)	(D)	0	(D)	1211	0	(D)	0	0	0	0	0	0	(*)	1	0
Other	(D)	(D)	0	0	617	139	(D)	0	0	0	0	0	0	0	(D)	0
Other manufacturing	14148	11132	682	326	171	54	340	0	0	1444	140	(D)	0	(D)	1627	633
Textile products and apparel	54	0	0	0	0	(D)	0	0	0	(D)	(D)	0	0	(D)	(D)	0
Lumber and furniture	271	0	(D)	0	0	0	(D)	0	0	(D)	(D)	0	0	0	0	(D)
Paper and allied products	874	0	0	0	0	0	0	0	0	874	0	0	0	3	0	0
Printing and publishing	(D)	0	(D)	0	0	0	47	0	0	(*)	0	0	0	1	1441	(D)
Newspapers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(D)	0
Other	(D)	0	(D)	0	0	0	47	0	0	(*)	0	0	0	1	(D)	(D)
Rubber products	(D)	(D)	0	0	0	(D)	0	0	0	(D)	(D)	0	0	0	0	0
Misc. plastics products	(D)	(D)	4	0	0	0	(D)	0	0	166	0	0	0	0	0	(D)
Stone, clay, & glass products	36	(*)	0	0	(D)	0	0	0	0	(D)	0	0	0	(D)	0	(D)
Transportation equipment	10250	9959	(D)	(D)	(D)	2	0	0	0	(D)	0	(D)	0	0	1	(D)
Motor vehicles & equipment	(D)	9959	(D)	(D)	(D)	2	0	0	0	0	0	(D)	0	0	0	0
Other	(D)	(*)	0	(D)	0	0	0	0	0	(D)	0	0	0	0	1	(D)
Instruments and related prods.	946	(D)	591	116	(D)	33	(D)	0	0	25	(D)	0	0	0	(D)	(D)
Other	238	0	(D)	(D)	(D)	(*)	57	0	0	61	77	0	0	0	1	0
Wholesale trade	311339	75803	13924	59074	27740	31818	27123	17518	36259	22080	371	19	1	7	715	702
Motor vehicles and equipment	70208	67160	(D)	340	(D)	2319	2	0	0	0	2	(D)	0	0	(D)	0
Professional & commer. equip.	15495	7	13523	(D)	1816	104	9	0	0	(D)	0	0	0	1	113	2
Metals and minerals	48557	(D)	(D)	42692	1	(D)	(D)	131	945	484	0	0	1	0	0	(D)
Electrical goods	26468	83	143	1401	24631	(D)	93	(D)	(*)	39	0	0	0	(*)	43	0
Machinery & equipment	23836	(D)	(D)	3641	482	16389	282	64	(D)	43	25	4	0	(*)	241	34
Other durable goods	32619	6	2	1813	209	3918	25500	57	253	861	(D)	0	0	0	106	31
Groceries and related products	22501	(D)	0	(D)	4	(D)	(D)	16764	(D)	187	(D)	0	0	0	0	(D)
Farm product raw materials	41151	0	0	4615	(D)	(D)	319	181	32892	(D)	0	(D)	0	(*)	0	(D)
Other nondurable goods	30504	2368	(D)	3253	248	2465	573	(D)	887	20431	116	0	0	6	(D)	(D)
Retail trade	2864	(D)	291	3	(D)	(D)	40	1780	0	95	73692	16	(D)	47	629	(D)
General merchandise stores	(D)	0	(D)	0	(D)	0	4	0	0	(D)	10441	0	0	(D)	25	1
Food stores	1778	0	0	0	0	0	0	1778	0	0	39162	0	0	(D)	1	0
Apparel and accessory stores	40	0	0	0	0	0	0	0	0	40	7440	1	0	4	11	0
Other	(D)	(D)	(D)	3	1	(D)	36	3	0	(D)	16648	15	(D)	20	592	(D)
Finance, except banking	1464	1380	0	9	0	72	3	0	0	0	(D)	28706	1263	274	(D)	(D)
Insurance	(D)	(D)	0	0	0	1	0	0	0	0	0	1	61283	(D)	53	(*)
Real estate	(D)	4	0	(D)	1	6	(D)	2	(D)	3	192	(D)	58	16500	360	400
Services	3376	1001	608	30	925	410	(D)	(D)	(D)	(D)	653	249	738	432	31347	1371
Hotels & other lodging places	(D)	0	0	0	0	0	0	(D)	0	0	(D)	3	(D)	203	5032	97
Business services	972	51	270	4	18	272	(D)	(*)	1	(D)	(D)	201	(D)	10	12833	568
Computer & data proc. serv.	179	(D)	147	0	(D)	5	(*)	(*)	0	(D)	(D)	(*)	7	1	3689	(D)
Other business services	793	(D)	124	4	(D)	266	(D)	(*)	1	(D)	29	201	(D)	8	9144	(D)
Motion pictures	(D)	0	0	0	(D)	0	0	0	0	0	(D)	0	0	(*)	4301	0
Engineering & arch. services	147	(D)	1	(D)	0	69	0	0	0	0	0	0	0	2	2879	401
Account., resch. & mgmt. serv.	239	(D)	14	(D)	60	14	0	(*)	(D)	3	27	(D)	(D)	(D)	1031	(D)
Health services	0	0	0	0	0	0	0	0	0	0	1	0	(*)	(D)	1551	0
Other services	1340	746	323	7	178	55	25	0	1	7	109	(D)	0	142	3720	(D)
Other industries	2049	0	0	(D)	(D)	79	5	183	1519	212	(D)	(D)	(D)	41	1414	53093
Agriculture, forestry, & fish.	1707	0	0	0	0	(D)	0	182	1505	(D)	0	(*)	0	(D)	(*)	2040
Mining	131	0	0	(D)	0	0	0	0	0	(D)	0	0	0	(*)	0	8741
Coal	0	0	0	0	0	0	0	0	0	0	0	0	0	(*)	0	1756
Other	131	0	0	(D)	0	0	0	0	0	(D)	0	0	0	(*)	0	6985
Construction	(D)	0	0	0	0	(D)	(*)	0	0	4	(D)	2	(D)	3	(D)	12034
Transportation	162	0	0	0	0	52	5	(*)	14	91	(D)	(D)	0	1	225	26846
Communication & pub. utilities	(D)	0	0	0	(D)	0	0	0	0	1	0	0	(D)	(D)	(D)	3433
Unspecified	1261	245	1	766	47	197	4	(*)	(*)	1	1	(*)	0	(*)	(D)	1

Table 47.--Employment by Affiliates, by Industry of Affiliate, 1980-86

[Thousands of employees]

	1980	1981	1982	1983	1984	1985	1986
All industries	2033.9	2416.6	2448.1	2546.5	2714.3	2862.2	2937.9
Mining	25.2	40.4	40.6	28.7	32.6	29.9	26.0
Petroleum	101.6	127.7	122.2	120.8	125.4	124.8	117.7
Manufacturing	1105.0	1300.0	1241.6	1321.5	1381.5	1455.2	1411.6
Food and kindred products	120.4	127.9	126.4	139.0	146.3	150.7	160.2
Chemicals and allied products ..	283.8	413.9	390.2	398.1	406.6	429.6	376.8
Industrial chemicals	121.4	255.7	241.2	232.1	231.7	230.3	253.8
Drugs	33.1	32.4	36.7	46.7	48.2	51.0	66.6
Soap, cleaners, & toiletries .	31.8	30.5	30.6	25.4	29.5	30.7	47.1
Agricultural chemicals	(D)	(D)	(D)	(D)	(D)	(D)	2.5
Other	(D)	(D)	(D)	(D)	(D)	(D)	6.9
Primary and fabricated metals ..	112.9	111.3	102.8	146.3	157.0	167.6	158.5
Primary metal industries	75.3	76.1	69.6	83.6	95.7	103.2	79.7
Fabricated metal products	37.6	35.2	33.2	62.7	61.3	64.3	78.8
Machinery	289.4	301.2	285.5	292.6	308.9	310.5	314.8
Machinery, except electrical .	116.9	137.6	132.2	124.8	125.2	116.4	91.6
Electric & electronic equip. .	172.5	163.7	153.3	167.8	183.7	194.1	223.3
Other manufacturing	298.6	345.7	336.7	345.4	362.7	396.8	401.3
Textile products and apparel .	28.5	43.1	37.0	35.6	34.6	37.9	32.9
Lumber and furniture	8.9	6.6	7.0	10.7	14.2	12.9	18.9
Paper and allied products	36.9	52.9	51.4	43.8	43.1	44.3	38.5
Printing and publishing	41.6	43.9	45.2	54.6	65.8	72.9	84.0
Rubber and plastics products .	23.3	28.4	26.3	25.7	20.2	19.3	23.9
Stone, clay & glass products .	46.5	42.4	47.6	58.3	67.9	80.4	80.2
Transportation equipment	65.1	72.8	71.0	64.7	65.7	64.4	62.3
Instruments & related prods. .	26.1	27.8	23.8	23.7	24.1	29.7	41.0
Other	21.7	27.9	27.2	28.4	27.1	35.1	19.6
Wholesale trade	217.2	254.0	280.1	269.5	287.4	294.6	308.0
Motor vehicles and equipment ...	43.1	52.1	51.9	54.9	62.2	68.4	71.1
Metals and minerals	29.8	42.0	37.9	23.2	19.6	20.4	23.5
Other durable goods	87.2	95.7	117.0	118.6	126.5	134.7	135.5
Farm product raw materials	25.6	28.9	33.8	28.3	26.3	20.6	20.3
Other nondurable goods	31.6	35.3	39.6	44.4	52.7	50.4	57.6
Retail trade	304.2	344.0	397.7	419.8	457.0	481.5	561.1
Food strs.,eat. & drink.places .	203.2	217.8	211.0	218.8	238.6	257.9	202.7
Retail trade, nec	101.0	126.2	186.7	201.0	218.5	223.6	358.4
Finance, except banking	24.8	18.1	25.4	36.6	42.5	47.4	56.4
Insurance	62.3	67.9	70.9	68.5	62.0	69.0	74.0
Real estate	19.7	28.7	25.7	26.6	27.2	30.8	32.1
Other industries	173.9	235.9	243.8	254.6	298.6	328.9	351.0
Agriculture	9.5	11.0	11.2	10.9	9.3	9.7	11.1
Forestry and fishing	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Construction	42.9	57.8	52.5	44.7	42.9	41.2	42.1
Transportation	33.8	40.5	50.7	47.8	53.1	48.1	57.0
Communication & pub. utilities .	2.3	2.4	6.3	8.4	9.5	10.2	17.0
Services	85.3	124.1	123.0	142.6	183.7	219.5	223.5

Table 48.--Employment by Affiliates, by Industry of Affiliate, 1987-90

[Thousands of employees]

	1987	1988	1989	1990
All industries	3224.3	3844.2	4511.5	4705.3
Petroleum	114.9	127	135.8	151
Petroleum & coal prods. manuf. .	90.6	103	104.6	105.2
Other	24.2	24	31.2	45.9
Manufacturing	1542.6	1828.6	2138.6	2197.1
Food and kindred products	142.6	177.4	251.3	250
Beverages	33.4	42.2	27.6	25.8
Other	109.2	135.3	223.8	224.2
Chemicals and allied products ..	395.8	390.7	437.1	510.4
Industrial chemicals	265.7	246.9	270.9	312.3
Drugs	70.8	79.3	93.3	114.1
Soap, cleaners, & toiletries .	37.8	41.7	61.6	61.1
Other	21.5	22.8	11.3	22.9
Primary and fabricated metals ..	159.3	199.8	280.2	267.9
Primary metal industries	85.5	87.7	118.4	135
Ferrous	39.3	38	52.2	74.3
Nonferrous	46.2	49.8	66.2	60.7
Fabricated metal products	73.8	112.1	161.8	132.8
Machinery	326.1	464.8	511.8	507.3
Machinery, except electrical .	109.3	194.1	245.3	211.6
Computer & office equip. ...	35.2	38.5	45.7	59
Other	74.1	155.5	199.6	152.6
Electric & electronic equip. .	216.8	270.7	266.6	295.7
Audio, video, & comm.	92.9	98.9	92	91.9
Electronic components	41.4	46.8	56.5	63.4
Other	82.6	125	118.1	140.4
Other manufacturing	518.7	595.9	658.1	661.5
Textile products and apparel .	40.4	50.5	58.9	60.6
Lumber and furniture	13.9	17.1	13.3	19.4
Paper and allied products	46.1	45.8	43.2	48.7
Printing and publishing	77.2	94.8	102.8	120.2
Newspapers	16.3	18.1	19.3	(D)
Other	60.9	76.7	83.5	(D)
Rubber products	27	54.1	58.9	70.4
Misc. plastics products	20.6	26.3	29.1	30.9
Stone, clay, & glass products	103.2	103.5	115.6	122.8
Transportation equipment	55.7	55.4	74.5	83.9
Motor vehicles & equipment .	33.2	35.8	44.6	53
Other	22.5	19.6	29.9	30.8
Instruments and related prods.	64.6	65.3	71.9	70.6
Other	70.0	83.1	89.8	34.1
Wholesale trade	321.9	364.8	398.7	436.8
Motor vehicles and equipment ...	71.4	73.8	79.5	83.1
Professional & commer. equip. ..	33.3	35.6	46.3	40
Metals and minerals	26.3	25.3	28	29.3
Electrical goods	46.7	64.6	68.6	82.3
Machinery & equipment	29.9	41.6	39.9	39.6
Other durable goods	26	34.5	35.7	41.6
Groceries and related products .	22	25.6	29.4	41.8
Farm product raw materials	17.4	16.5	17.1	18.2
Other nondurable goods	48.9	47.3	54.3	60.9
Retail trade	558.7	678.4	803.9	755.6
General merchandise stores	93.8	183	176.1	138.6
Food stores	216.9	230.5	243	289.1
Apparel and accessory stores ...	86.8	80.9	85.6	99.7
Other	161.3	184.1	299.2	228.1
Finance, except banking	83.9	98.8	94.9	53.8
Insurance	87.4	101.9	111.6	126.6
Real estate	33.9	36.3	38.1	45.8
Services	290.3	378.6	460.7	553.5
Hotels & other lodging places ..	51.7	62.1	73.1	118.6
Business services	149.1	188.1	241.7	222.8
Computer & data proc. serv. ..	13.4	13.8	24.7	31.4
Other business services	135.7	174.3	216.9	191.4
Motion pictures	18.2	22.1	26.2	42.7
Engineering & arch. services ...	18.4	21.5	28.4	31.9
Account., resch. & mgmt. serv. .	12.2	9.7	16.1	7.9
Health services	24.8	28.4	28.1	58.2
Other services	15.9	46.7	47.1	71.4
Other industries	190.7	229.8	329.1	385.1
Agriculture, forestry, & fish. .	14.3	15.3	22.4	21.2
Mining	27.6	26.7	44.1	50.2
Coal	13.9	11.1	7.2	7.5
Other	13.7	15.6	36.9	42.7
Construction	52.4	56.8	72.5	71.9
Transportation	72.4	100.2	149.7	196.1
Communication & pub. utilities .	24	30.8	40.4	45.7

Table 49a.—Employment by Affiliates, Industry of Sales by Industry of Affiliate, 1988

[Thousands of employees]

For the distribution by industry of sales, read the column. For the distribution by industry of affiliate, read the row.	All industries	Petroleum	Manufacturing									
			Total	Food and kindred products	Chemicals and allied products					Primary and fabricated metals		
					Total	Industrial chemicals and synthetics	Drugs	Soap, cleaners, and toilet goods	Other	Total	Primary metal industries	Fabricated metal products
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
All industries	3844.2	127	1828.6	177.4	390.7	246.9	79.3	41.7	22.8	199.8	87.7	112.1
Petroleum	121.6	97.7	18.4	0	(D)	(D)	0	0	0	0.2	0.1	0.1
Petroleum & coal prods. manuf.	81.6	(D)	(D)	0	(D)	(D)	0	0	0	0	0	0
Other	40	(D)	(D)	0	(D)	(D)	0	0	0	0.2	0.1	0.1
Manufacturing	1650.7	(D)	1512.7	148.2	312.6	186.6	65.2	41.5	19.3	181	78.9	102.1
Food and kindred products	176.7	(D)	161.3	146.5	12.8	0.2	0.8	11.6	0.2	0.1	0	0.1
Beverages	30.9	0	30	27.9	2.2	0.2	(D)	(D)	0	0	0	0
Other	145.8	(D)	131.2	118.6	10.6	(*)	(D)	(D)	0.2	0.1	0	0.1
Chemicals and allied products	288.7	11.3	274	0.8	259	156.4	58.2	28	16.4	5.2	5.2	0
Industrial chemicals	136.6	7.9	127.2	(*)	116.8	109.3	(D)	0.8	(D)	5.2	5.2	0
Drugs	67.5	0	67	(D)	65.1	(D)	47.1	0	(D)	0	0	0
Soap, cleaners, & toiletries	29.2	0	29.2	0.6	28.5	(D)	(D)	24.3	0	0	0	0
Other	55.4	3.4	50.7	(D)	48.6	27.6	4	2.9	14.1	(*)	(*)	0
Primary and fabricated metals	166.7	(D)	154.6	0.3	0.4	0.2	0	0	0.2	142.1	64.3	77.9
Primary metal industries	81.5	(D)	71.7	0	0.2	0	0	0	0.2	67.2	63.5	3.7
Ferrous	42.4	0	37.8	0	0	0	0	0	0	36.8	34.1	2.8
Nonferrous	39.1	(D)	33.9	0	0.2	0	0	0	0.2	30.4	29.4	1
Fabricated metal products	85.3	(*)	82.9	0.3	0.2	0.2	0	0	0	74.9	0.8	74.1
Machinery	403.1	1.4	367.9	0.1	9.2	5.3	(D)	(D)	(D)	9.6	2.7	6.8
Machinery, except electrical	159.6	0.9	147.6	(*)	4.3	(D)	(D)	0.5	(*)	8.5	2.3	6.3
Computer & office equip.	35.2	(*)	33.6	0	0	0	0	0	0	0.1	0	0.1
Other	124.4	0.9	114	(*)	4.3	(D)	(D)	0.5	(*)	8.4	2.3	6.2
Electric & electronic equip.	243.4	0.4	220.3	0.1	4.9	(D)	(D)	(D)	(D)	1	0.5	0.6
Audio, video, & comm.	76.8	0	64	0.1	(D)	0	(D)	0	0	0.4	0.4	0
Electronic components	69.4	0.4	62.9	(*)	(D)	(D)	0	0	0	0.5	0.1	0.5
Other	97.3	0	93.4	(*)	0.7	(D)	0	(D)	(D)	0.2	(*)	0.1
Other manufacturing	615.5	(D)	554.9	0.5	31.3	24.5	(D)	(D)	(D)	24	6.7	17.3
Textile products and apparel	50	0	48.9	0	0.9	(D)	0	0	(D)	0	0	0
Lumber and furniture	28.6	0	26	0	0.9	0	0	(D)	(D)	0.5	0	0.5
Paper and allied products	46.6	0	43.6	(*)	(D)	(D)	0	0	0	(D)	(D)	0
Printing and publishing	95.2	0	90.1	0	3.9	3.9	0	(*)	0	(D)	(D)	(*)
Newspapers	19.9	0	(D)	0	0	0	0	0	0	0	0	0
Other	75.2	0	(D)	0	3.9	3.9	0	(*)	0	(D)	(D)	(*)
Rubber products	50.4	0	(D)	0	0	0	0	0	0	0	0	0
Misc. plastics products	42.7	0	41.2	0	8.7	8.7	0	0	0	1.1	(D)	(D)
Stone, clay, & glass products	89.5	(D)	86.2	0.1	0.4	0.3	0	0	0.1	2	1	0.9
Transportation equipment	89.8	(*)	66.9	0	(D)	0	(D)	0	0	(D)	(D)	(D)
Motor vehicles & equipment	63.1	(*)	40.2	0	0	0	0	0	0	4.4	(D)	(D)
Other	26.7	0	26.6	0	(D)	0	(D)	0	0	(D)	0	(D)
Instruments and related prods.	85	0.1	78.5	0.4	14.8	10.5	1.9	(D)	(D)	2.6	(D)	(D)
Other	37.7	0	(D)	0.1	(*)	0	0	(*)	(*)	0.5	0.4	0.1
Wholesale trade	286.7	0.2	58.4	6.6	12.8	9.4	3.2	0.1	0.1	3.8	1.9	1.8
Motor vehicles and equipment	38.9	0	1.4	0	0	0	0	0	0	(*)	0	(*)
Professional & commer. equip.	41.1	(*)	11.1	0	(D)	(D)	0.2	(*)	0	0.1	0	0.1
Metals and minerals	12.7	(*)	2.6	0	(*)	(*)	0	0	(*)	2.5	1.9	0.6
Electrical goods	43.7	0	13.9	0.1	(*)	(*)	0	0	(*)	0.1	(*)	(*)
Machinery & equipment	38.9	(*)	7.9	0	1.2	1.2	0	0	0	0.3	(*)	0.2
Other durable goods	29.6	(*)	2.4	(*)	0.5	0.5	0	0	0	0.9	0	0.9
Groceries and related products	21.1	0	2.8	2.8	0	0	0	0	0	0	0	0
Farm product raw materials	7.5	0	0.4	0.4	0	0	0	0	0	0	0	0
Other nondurable goods	53.3	0.2	16	3.5	(D)	(D)	2.9	0.1	0.1	(*)	(*)	0
Retail trade	762.6	0.7	67.2	16.1	0.1	0	0	(*)	0.1	0	0	0
General merchandise stores	223.1	0	(D)	(*)	(*)	0	0	(*)	0	0	0	0
Food stores	235.4	0.4	(D)	(D)	0	0	0	0	0	0	0	0
Apparel and accessory stores	79.9	0	0.3	0	0	0	0	0	0	0	0	0
Other	224.2	0.3	24.4	(D)	0.1	0	0	0	0.1	0	0	0
Finance, except banking	103.1	(*)	(D)	0	0	0	0	0	0	0	0	0
Insurance	111.3	0	(D)	0	0	0	0	0	0	0	0	0
Real estate	31.5	0	0.2	(*)	(*)	(*)	0	0	0	(*)	0	(*)
Services	426.5	1.4	44.6	(D)	(D)	(D)	(D)	(*)	0.2	1.5	0.2	1.3
Hotels & other lodging places	66	(D)	(D)	(D)	0	0	0	0	0	0	0	0
Business services	202.6	(*)	20.9	(D)	(D)	(D)	(*)	0	(*)	0.1	0	0.1
Computer & data proc. serv.	27.7	0	12.8	0	0	0	0	0	0	0	0	0
Other business services	174.9	(*)	8.1	(D)	(D)	(D)	(*)	0	(*)	0.1	0	0.1
Motion pictures	15.8	0	0.2	0	0	0	0	0	0	0	0	0
Engineering & arch. services	25.5	0	4.9	0	(*)	(*)	0	0	0	(D)	0.1	(D)
Account., resch. & mgmt. serv.	27	(D)	11.2	0	(D)	(*)	(D)	(*)	0.2	0.1	0.1	0
Health services	31.3	0	(*)	0	(*)	0	(*)	0	0	0	0	0
Other services	58.3	(*)	(D)	0	0.4	0.4	0	(*)	0	(D)	(*)	(D)
Other industries	269.4	(D)	38.7	0.2	14.1	(D)	0	0	(D)	10.9	5.8	5.1
Agriculture, forestry, & fish.	19.8	0.4	0.2	(*)	0	0	0	0	0	0	0	0
Mining	55.6	(D)	25.2	0	14.1	(D)	0	0	(D)	5.8	5.8	0
Coal	22.8	(D)	(D)	0	(D)	(D)	0	0	0	(D)	(D)	0
Other	32.8	0.7	(D)	0	(D)	(D)	0	0	(D)	(D)	(D)	0
Construction	63	(*)	11.4	0	0	0	0	0	0	5.1	(*)	5.1
Transportation	117.4	0.4	1.2	0.2	0	0	0	0	0	(*)	(*)	0
Communication & pub. utilities	13.6	0	0.8	0	0	0	0	0	0	0	0	0
Unspecified	80.8	(D)	70.3	(D)	27.8	25.1	(D)	(*)	(D)	2.5	0.8	1.7

Table 49b.—Employment by Affiliates, Industry of Sales by Industry of Affiliate, 1988—Continued

[Thousands of employees]

For the distribution by industry of sales, read the column. For the distribution by industry of affiliate, read the row.	Manufacturing, continued															
	Machinery			Other manufacturing												
	Total	Machinery, except electrical	Electric and electronic equipment	Total	Textile products and apparel	Lumber, wood, furniture, and fixtures	Paper and allied products	Printing and publishing	Rubber products	Miscellaneous plastics products	Stone, clay, and glass products	Transportation equipment			Instruments and related products	Other
												Total	Motor vehicles and equipment	Other		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
All industries	464.8	194.1	270.7	595.9	50.5	17.1	45.8	94.8	54.1	26.3	103.5	55.4	35.8	19.6	65.3	83.1
Petroleum	1.1	1	0.1	(D)	0	0	0	0	(*)	(*)	(D)	0	0	0	(D)	0
Petroleum & coal prods. manuf.	0	0	0	(D)	0	0	0	0	0	0	(D)	0	0	0	0	0
Other	1.1	1	0.1	(D)	0	0	0	0	(*)	(*)	(*)	0	0	0	(D)	0
Manufacturing	379	145.6	233.5	491.8	49.9	16.9	43.1	87.1	42.7	25.3	90.8	50.8	32.8	18.1	56	29.1
Food and kindred products	(D)	(D)	0	(D)	0	0	(D)	0	0	(D)	0	0	0	0	0	0
Beverages	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	(D)	(D)	0	(D)	0	0	(D)	0	0	(D)	0	0	0	0	0	0
Chemicals and allied products	3.2	(D)	(D)	5.9	(D)	0	0	0.1	(D)	(D)	0.2	0.1	0.1	0	2	0
Industrial chemicals	3	(D)	(D)	2.1	(*)	0	0	0.1	(D)	(D)	0	0.1	0.1	0	0	0
Drugs	0	0	0	(D)	0	0	0	0	0	0	0	0	0	0	(D)	0
Soap, cleaners, & toiletries	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	(*)	0	(*)	(D)	(D)	0	0	0	0	(*)	0.2	0	0	0	(D)	0
Primary and fabricated metals	(D)	4	(D)	(D)	0.5	0	(D)	0.4	0.1	0.6	0.4	0.6	0.5	0.1	(D)	0.2
Primary metal industries	(D)	0.6	(D)	(D)	0.4	0	0	0	0.1	0	0.1	0.2	0.1	0.1	(D)	0
Ferrous	(D)	0.6	(D)	(D)	0	0	0	0	0.1	0	0.1	(D)	0	(D)	0	0
Nonferrous	(D)	0	(D)	(D)	0.4	0	0	0	0	0	0	(D)	0.1	(D)	(D)	0
Fabricated metal products	4.5	3.4	1.1	2.9	(*)	0	(D)	0.4	0	0.6	0.2	0.4	0.4	0	(D)	0.2
Machinery	334.5	120.8	213.7	14.5	(D)	0	0.1	3.6	(D)	0.8	0.4	4.4	0.8	3.6	(D)	(*)
Machinery, except electrical	129.9	111.2	18.7	4.9	(D)	0	0	(D)	(D)	0.8	0.1	0.9	0.5	0.3	1.1	0
Computer & office equip.	33	29.2	3.7	0.5	0	0	0	0	0	0.1	0	0	0	0	0.5	0
Other	96.9	82	14.9	4.4	(D)	0	0	(D)	(D)	0.7	0.1	0.9	0.5	0.3	0.7	0
Electric & electronic equip.	204.6	9.6	195.1	9.6	0	0	0.1	(D)	(*)	0	0.3	3.5	0.3	3.3	(D)	(*)
Audio, video, & comm.	55.2	0	55.2	(D)	0	0	0	(D)	0	0	0	0.3	0	0.3	(D)	0
Electronic components	57.2	(D)	(D)	(D)	0	0	0.1	0	0	0	0.3	(D)	0	(D)	0.5	(*)
Other	92.2	(D)	(D)	0.4	0	0	0	0	(*)	0	0	(D)	0.3	(D)	(D)	0
Other manufacturing	31.7	16.9	14.7	467.4	47.7	16.9	41.8	83	40.3	23.4	89.8	45.7	31.4	14.4	49.9	28.9
Textile products and apparel	(*)	0	(*)	47.9	46.1	0	0.3	0	(D)	0	(D)	0	0	0	0.1	0
Lumber and furniture	5.5	(D)	(D)	19.1	0	16.9	0.5	0	0	0	(D)	0	0	0	0	(D)
Paper and allied products	(*)	(*)	0	43.1	0.1	0	38.8	0	0	(D)	0	0	0	0	0	(D)
Printing and publishing	(D)	(D)	0	81.3	(*)	0	0	81.3	0	0	0	0	0	0	0	0
Newspapers	0	0	0	(D)	0	0	0	(D)	0	0	0	0	0	0	0	0
Other	(D)	(D)	0	(D)	(*)	0	0	(D)	0	0	0	0	0	0	0	0
Rubber products	(D)	0	(D)	40	0.3	0	0	0	38.2	(D)	0	0.3	0.3	0	(D)	0
Misc. plastics products	0.7	0.6	0.1	30.6	0.7	0	2	1.7	(D)	21.7	(D)	0.1	0	0.1	0	0.4
Stone, clay, & glass products	2	(D)	(D)	81.8	0	0	(*)	0	0	(*)	81.5	0.1	0.1	0	0	0.2
Transportation equipment	2.7	2.3	0.4	47.6	0	0	0	0	(D)	0.4	(*)	45.1	30.8	14.3	(D)	0
Motor vehicles & equipment	2.3	2.3	(*)	33.5	0	0	0	0	(D)	0.4	(*)	31	30.3	0.7	(D)	0
Other	0.4	(*)	0.4	14.1	0	0	0	0	(*)	0	0	14.1	0.5	13.5	0	0
Instruments and related prods.	9.9	3.5	6.4	50.8	0	0	0	0	0	(D)	(D)	(*)	(*)	0	47.5	0.1
Other	(D)	(D)	1.9	25	0.5	0	0.3	0	0.2	0.2	0.6	0.1	0.1	0	(*)	23.1
Wholesale trade	23.4	3	20.4	11.7	0.2	(*)	2.2	0.5	(D)	0.7	1	(D)	(D)	(D)	2.3	0.1
Motor vehicles and equipment	(*)	(*)	(*)	1.3	0	0	0	0	(D)	0	0	(D)	(D)	0	0	0
Professional & commer. equip.	(D)	(D)	(D)	1.9	0	0	0	0	0	0	0	0	0	0	1.9	0
Metals and minerals	0	0	0	0.1	(*)	0	0	0	(*)	0	(*)	0.1	0.1	0	0	0
Electrical goods	13.5	(*)	13.5	0.2	0	0	0	(*)	0	(*)	(*)	0	0	0	0.1	0
Machinery & equipment	3.3	1.6	1.7	3.1	0	0	(*)	0	(D)	(*)	0	(D)	0	(D)	0.1	(*)
Other durable goods	(*)	(*)	0	1	0	(*)	(*)	0	0	(*)	0.9	0	0	0	(*)	0.1
Groceries and related products	0	0	0	(*)	0	(*)	(*)	0	0	0	0	0	0	0	0	0
Farm product raw materials	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other nondurable goods	(D)	(D)	(D)	3.9	0.2	0	2.1	0.5	0.2	0.6	(*)	0	0	0	0.1	(*)
Retail trade	(D)	(D)	(*)	(D)	0.2	0	0	0.6	(D)	0.1	0.3	(D)	(D)	(D)	(*)	(D)
General merchandise stores	(*)	(*)	0	(D)	0	0	0	0.2	0	(*)	(*)	0	0	0	0	(D)
Food stores	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apparel and accessory stores	0.1	0.1	0	0.2	0.2	0	0	0	0	0	0	0	0	0	0	0
Other	(D)	(D)	(*)	(D)	0	0	0	0.4	(D)	(*)	0.3	(D)	(D)	(D)	(*)	(*)
Finance, except banking	(D)	0	(D)	0.1	0	0	(*)	0	0	0	(*)	0.1	0.1	0	0	0
Insurance	0	0	0	(D)	0	0	0	0.1	0	0	(*)	0	0	0	(*)	(D)
Real estate	0	0	0	0.2	0.2	0	0	(*)	0	0	(*)	0	0	0	(*)	0
Services	16.7	11.7	5	9	(*)	(*)	0.1	5.9	(*)	0.1	(D)	0.2	0.1	0.2	(D)	(D)
Hotels & other lodging places	0	0	0	(D)	0	0	0	0	0	0	(D)	0	0	0	0	0
Business services	8.9	8.8	0.2	7.2	0	0	(*)	5.7	0	(*)	0	0	0	0	(D)	(D)
Computer & data proc. serv.	8.6	8.5	0.2	4.1	0	0	0	2.8	0	(*)	0	0	0	0	(D)	(D)
Other business services	0.3	0.3	0	3.1	0	0	(*)	2.9	0	0	0	0	0	0	0.1	(*)
Motion pictures	0.2	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0
Engineering & arch. services	(D)	(D)	(D)	0.7	0	0	0	0	0	0	0.7	0.1	(*)	(*)	0	0
Account., resch. & mgmt. serv.	(D)	(D)	(D)	0.4	0	0	(*)	0.2	0	0.1	(*)	0	0	0	(*)	0
Health services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other services	1.5	1.2	0.3	(D)	(*)	(*)	0.1	(*)	(*)	(*)	0	0.2	(*)	0.2	(D)	0.1
Other industries	2.8	0.5	2.3	10.7	0	0.2	0.3	0.6	(*)	(*)	9.3	0.3	0	0.3	(*)	0
Agriculture, forestry, & fish.	0	0	0	0.2	0	0.2	(*)	0	0	0	0	0	0	0	0	0
Mining	0.3	0.3	0	5	0	0	0	0	0	(*)	5	0	0	0	0	0
Coal	0	0	0	(*)	0	0	0	0	0	(*)	0	0	0	0	0	0
Other	0.3	0.3	0	5	0	0	0	0	0	0	5	0	0	0	0	0
Construction	(D)	0	(D)	(D)	0	0	0	0	0	0	(D)	0.3	0	0.3	0	0
Transportation	(D)	0.2	(D)	(D)	0	0	0.2	(*)	(*)	0	(D)	0	0	0	0	0
Communication & pub. utilities	0	0	0	0.8	0	0	0.1	0.6	0	0	(*)	0	0	0	(*)	0
Unspecified	38.1	(D)	(D)	(D)	0	(*)	(*)	(*)	0.2	0	0.2	0.1	0.1	0	(D)	0

Table 49c.—Employment by Affiliates, Industry of Sales by Industry of Affiliate, 1988—Continued

[Thousands of employees]

For the distribution by industry of sales, read the column. For the distribution by industry of affiliate, read the row.	Wholesale trade										Retail trade	Finance, except banking	Insurance	Real estate	Services	Other industries
	Total	Motor vehicles and equipment	Professional and commercial equipment and supplies	Metals and minerals, except petroleum	Electrical goods	Machinery, equipment, and supplies	Other durable goods	Groceries and related products	Farm product raw materials	Other nondurable goods						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
All industries	364.8	73.8	35.6	25.3	64.6	41.6	34.5	25.6	16.5	47.3	678.4	98.8	101.9	36.3	378.6	229.8
Petroleum	1.3	0.1	0	0.2	0.5	0.1	(*)	(*)	0.1	0.2	0.3	(*)	0	(*)	0.7	3.1
Petroleum & coal prods. manuf.	0.2	0	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0.1
Other	1	0.1	0	0.2	0.3	0.1	(*)	(*)	0.1	0.2	0.3	(*)	0	(*)	0.7	3
Manufacturing	101.6	34.7	3.6	9.2	21.8	6.8	5.9	1.3	8.6	9.7	(D)	(*)	0	0.1	8.2	2.5
Food and kindred products	10.5	(*)	0	0.1	0	0	0	1	8.6	0.8	(D)	0	0	0	0.1	0.2
Beverages	0.8	0	0	0	0	0	0	0	0	0.8	0	0	0	0	(*)	0
Other	9.7	(*)	0	0.1	0	0	0	1	8.6	0	(D)	0	0	0	(*)	8.2
Chemicals and allied products	3.2	(*)	0.1	(D)	(*)	(D)	0	0	0	1.9	0	0	0	0	(*)	0.1
Industrial chemicals	1.5	(*)	0.1	0.9	(*)	0	0	0	0	0.4	0	0	0	0	(*)	0
Drugs	0.5	0	0	0	0	0	0	0	0	0.5	0	0	0	0	0	0
Soap, cleaners, & toiletries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	1.2	(*)	0	(D)	0	(D)	0	0	0	1	0	0	0	0	0	0.1
Primary and fabricated metals	7	0.2	0	(D)	0	(D)	0.8	(*)	0	(*)	(D)	0	0	0	0.4	0.5
Primary metal industries	5.4	0	0	5.2	0	0	0.2	0	0	(*)	(D)	0	0	0	0.1	0.1
Ferrous	(D)	0	0	(D)	0	0	0.2	0	0	0	(D)	0	0	0	0.1	0.1
Nonferrous	(D)	0	0	(D)	0	0	0	0	0	(*)	0	0	0	0	0	0
Fabricated metal products	1.7	0.2	0	(D)	0	(D)	0.6	(*)	0	0	0	0	0	0	0.3	0.4
Machinery	29.3	2.2	1.7	2	17.2	5.3	0.3	0	0	0.5	0	0	0	0	3.4	1
Machinery, except electrical	(D)	1.6	(D)	1.9	0.6	4.5	0.1	0	0	0.5	0	0	0	0	(D)	1
Computer & office equip.	1.6	0	0.1	0.8	0.5	0.2	0	0	0	0	0	0	0	0	0	0
Other	(D)	1.6	(D)	1.2	0.1	4.3	0.1	0	0	0.5	0	0	0	0	(D)	1
Electric & electronic equip.	(D)	0.6	(D)	0.1	16.6	0.8	0.2	0	0	0	0	0	0	0	(D)	0
Audio, video, & comm.	(D)	0	(D)	0	9.1	0.1	0	0	0	0	0	0	0	0	(D)	0
Electronic components	5.6	0.2	0.4	0.1	4.9	0	0.1	0	0	0	0	0	0	0	0.4	0
Other	3.9	0.4	0	0	2.6	0.7	0.1	0	0	0	0	0	0	0	0	0
Other manufacturing	51.6	32.2	1.8	0.7	4.6	0.8	4.8	0.3	0	6.5	(D)	(*)	0	0.1	4.2	0.7
Textile products and apparel	1.1	(*)	0	0	(D)	(*)	0	0	0	(D)	0	0	0	0	0	0
Lumber and furniture	2.4	0	0	0	0	0	(D)	0	0	(D)	0	0	0	(*)	0	0.2
Paper and allied products	2.7	0	0	0	(*)	0	0	0	0	2.7	0	0	0	0.1	0	0.3
Printing and publishing	1.2	0.2	0.2	0	0	0	(D)	0	0	(D)	0	0	0	0	3.9	0
Newspapers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(D)	0
Other	1.2	0.2	0.2	0	0	0	(D)	0	0	(D)	0	0	0	0	(D)	0
Rubber products	(D)	(D)	0	0	0	0.1	0	0	0	0	0.2	0	0	0	0	0
Misc. plastics products	1.4	0	(*)	0	0.5	0	0.8	0	0	0.1	0	0	0	(*)	0	0.1
Stone, clay, & glass products	(D)	(D)	0	0	(D)	0	0.4	0	0	0.2	0	0	0	(*)	0	0.1
Transportation equipment	22.9	22.8	0.1	0	0	(*)	0	0	0	0	0	(*)	0	0	(*)	0
Motor vehicles & equipment	22.8	22.8	(*)	0	0	(*)	0	0	0	0	0	(*)	0	0	0	0
Other	(*)	(*)	(*)	0	0	0	0	0	0	0	0	0	0	0	(*)	0
Instruments and related prods.	6	0	1.5	0.7	2.1	0.3	(D)	0	0	(D)	(*)	0	0	0	0.3	0
Other	3.7	0	(*)	0	1.1	0.3	(D)	0.3	0	(D)	(D)	0	0	0	0	0.1
Wholesale trade	221.9	36.7	28	12.8	31	30.7	25.1	16.3	6.2	35.2	0.8	0	0	0.1	3.7	1.7
Motor vehicles and equipment	34.9	34	0.1	0.6	0.1	0.2	(*)	(*)	0	0	(D)	0	0	0	(D)	0
Professional & commer. equip.	29.6	0.1	26.8	(*)	2.5	0.1	(*)	0	0	(*)	0	0	0	(*)	0.4	0.1
Metals and minerals	9.9	0.2	0	8.7	(*)	0.5	(*)	0.1	0.2	0.3	0	0	0	0	0	0.1
Electrical goods	29.8	0.4	0.7	0.3	27.5	(*)	(*)	(*)	0	0.9	0	0	0	0	0.1	0
Machinery & equipment	30.3	0.6	0.2	0.9	0.3	27.3	0.7	(*)	0.2	0.2	0.1	0	0	(*)	(D)	(D)
Other durable goods	26.9	(*)	(*)	0.4	0.4	0.3	24.1	(*)	0.1	1.5	0.1	0	0	0	0.2	(*)
Groceries and related products	16.6	0.1	0	0.2	(*)	0.8	(*)	14.8	0.1	0.7	(D)	0	0	0	0	(D)
Farm product raw materials	7.1	0	0	0.4	(D)	(D)	(*)	0.3	5.3	(*)	0	0	0	0	0	(*)
Other nondurable goods	36.7	1.4	0.1	1.5	(D)	(D)	0.2	1	0.3	31.7	0.3	0	0	(*)	0.1	(*)
Retail trade	11.1	0.4	(*)	0.4	(D)	(D)	0.3	(D)	0	(D)	670.1	(*)	(*)	0.6	12.7	0.1
General merchandise stores	(D)	0	0	0	(D)	0	0.1	0	0	0	182.7	0	0	0.1	0.1	(*)
Food stores	(D)	0	0	0	0	0	0	(D)	0	0	224.4	0	0	0	(*)	0
Apparel and accessory stores	0.1	0	0	0	0	0	0	0	0	0.1	79.4	(*)	0	(*)	0.1	0
Other	2.9	0.4	(*)	0.4	(*)	(D)	0.2	(*)	0	(D)	183.6	0	(*)	0.5	12.5	0.1
Finance, except banking	1.1	0.5	0	0.1	0	0.3	(*)	(*)	0	0.2	0.1	94.8	3.2	(D)	0.2	(*)
Insurance	(*)	(*)	0	0	0	0	0	0	0	0	(*)	(D)	95	(D)	0.2	0
Real estate	0.2	(*)	0	(*)	(*)	(*)	(*)	0	0.1	(*)	(D)	(D)	(D)	25.1	(D)	0.7
Services	13.8	1.2	4	0.2	3.1	1.8	3.2	(*)	(*)	0.3	0.9	0.3	3.4	8.6	346.6	6.8
Hotels & other lodging places	0	0	0	0	0	0	0	0	0	0	0.4	0	0	2.8	56.6	(D)
Business services	6.5	0.1	(D)	(*)	0.9	0.7	(D)	(*)	(*)	0.1	0.2	(*)	(D)	(D)	172.6	1.4
Computer & data proc. serv.	0.5	0	0.4	0	(*)	(*)	0.1	(*)	0	(*)	0.1	0	0.1	(*)	13.9	0.3
Other business services	6	0.1	(D)	(*)	0.9	0.7	(D)	0	(*)	0.1	0.1	(*)	(D)	(D)	158.8	1.1
Motion pictures	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15.6	0
Engineering & arch. services	0.7	0.2	0	0.1	(*)	0.4	0	0	0	0	(*)	0	0	(*)	15.9	4
Account., resch. & mgmt. serv.	0.8	0.1	0.2	0.1	0.3	0.1	(*)	(*)	(*)	0.1	(*)	0.3	(D)	0.1	11.4	(D)
Health services	(D)	0	0	0	0	0	0	0	0	(D)	0	0	0	(D)	29	0
Other services	(D)	0.8	(D)	(*)	1.9	0.5	(D)	(*)	(*)	(D)	0.3	0	(*)	(D)	45.4	0.2
Other industries	5.9	(*)	0	0.2	(D)	0.2	(*)	1.3	1.5	(D)	0.2	(*)	(D)	0.6	5	214.7
Agriculture, forestry, & fish.	2.4	0	0	0	0	(*)	(*)	1	(D)	(D)	0	0	0	0.2	0.9	15.7
Mining	(D)	0	0	0.2	(D)	0	0	0	0	(D)	0	0	0	(*)	0	25.3
Coal	0.3	0	0	0	0	0	0	0	0	0.3	0	0	0	(*)	0	9.7
Other	(D)	0	0	0.2	(D)	0	0	0	0	(D)	0	0	0	(*)	0	15.5
Construction	(D)	0	0	(*)	(D)	0	(*)	0	0	0	(*)	0	0	0.4	(D)	49.2
Transportation	(D)	(*)	0	0	(D)	0.2	0	0.3	(D)	(*)	0.1	(*)	0	0	(D)	113.5
Communication & pub. utilities	(*)	0	0	0	(*)	0	0	0	0	(*)	0	0	(D)	(*)	(D)	11
Unspecified	7.9	0.2	(*)	2.1	(D)	(D)	(*)	(D)	(*)	0.1	0	(*)	0	8.1	(D)	8.1

Table 50a.—Employment by Affiliates, Industry of Sales by Industry of Affiliate, 1989

[Thousands of employees]

For the distribution by industry of sales, read the column. For the distribution by industry of affiliate, read the row.	All industries	Petroleum	Manufacturing									
			Total	Food and kindred products	Chemicals and allied products					Primary and fabricated metals		
					Total	Industrial chemicals and synthetics	Drugs	Soap, cleaners, and toilet goods	Other	Total	Primary metal industries	Fabricated metal products
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
All industries	4511.5	135.8	2138.6	251.3	437.1	270.9	93.3	61.6	11.3	280.2	118.4	161.8
Petroleum	126.7	103.1	19.9	0	(D)	(D)	0	(D)	0	(D)	0.1	(D)
Petroleum & coal prods. manuf.	86.1	70.6	(D)	0	(D)	(D)	0	(D)	0	0	0	0
Other	40.6	32.6	(D)	0	(D)	(D)	0	0	0	(D)	0.1	(D)
Manufacturing	1906.6	17.2	1745.6	172.2	346.9	206.8	76.2	53.1	10.8	244.7	107.6	137.1
Food and kindred products	203.4	(D)	185.8	169.4	16.1	0.1	0.8	15.2	(*)	0.1	0	0.1
Beverages	30.7	0	29.6	(D)	(D)	(*)	0.5	(D)	0	0	0	0
Other	172.6	(D)	156.2	(D)	(D)	0.1	0.4	(D)	(*)	0.1	0	0.1
Chemicals and allied products	317.6	10.9	301.3	1.1	286.6	174.8	65.7	36.1	10	5.1	4.9	0.2
Industrial chemicals	150.2	7.4	141.7	(*)	132	126.3	(D)	(D)	0.4	5.1	4.9	0.2
Drugs	79.2	0	77.2	0.4	76.4	18.7	57.7	0	0	0	0	0
Soap, cleaners, & toiletries	36.5	0	36.3	0.6	35.6	2.4	0.5	32.7	0	0	0	0
Other	51.7	3.5	46.1	0.1	42.6	27.4	(D)	(D)	9.6	(*)	(*)	0
Primary and fabricated metals	197.3	0.7	189.8	0	0.2	0	0	0	0.2	180.3	87.7	92.6
Primary metal industries	96.9	0.7	91.6	0	0.2	0	0	0	0.2	89.2	86.7	2.5
Ferrous	52.7	0.2	50.3	0	0	0	0	0	0	49.1	47.1	1.9
Nonferrous	44.2	0.5	41.3	0	0.2	0	0	0	0.2	40.2	39.6	0.6
Fabricated metal products	100.4	0	98.2	0	0	0	0	0	0	91.1	1	90.1
Machinery	487.5	1.7	435.9	0.1	10	5.5	(D)	(D)	0.3	23.3	5.8	17.5
Machinery, except electrical	212.6	1.3	192.4	(*)	5	(D)	0	(D)	(*)	10.7	(D)	(D)
Computer & office equip.	37.1	0	34.5	0	0	0	0	0	0	(D)	(D)	0.2
Other	175.5	1.3	157.9	(*)	5	(D)	0	(D)	(*)	(D)	1	(D)
Electric & electronic equip.	274.8	0.4	243.4	0.1	5	(D)	(D)	(D)	0.3	12.6	(D)	(D)
Audio, video, & comm.	74.3	0	58	0.1	(D)	0	(D)	0	0	(D)	(D)	0
Electronic components	80.3	0.4	70.9	(*)	(D)	(D)	0	0	0	(D)	(D)	1.3
Other	120.2	0	114.6	(*)	(D)	0	0	(D)	0.3	(D)	(D)	(D)
Other manufacturing	700.8	(D)	632.9	1.6	34	26.4	(D)	(D)	0.3	35.9	9.2	26.7
Textile products and apparel	59.2	0	58	0	0.9	0.9	0	0	(*)	0	0	0
Lumber and furniture	24.2	0	21.5	(D)	0	0	0	0	0	(D)	0	(D)
Paper and allied products	47.6	0	44.2	(*)	0	0	0	0	0	0.1	0.1	0
Printing and publishing	108	0	101.5	0	(D)	(D)	0	0	0	2.2	2.1	0.1
Newspapers	20.8	0	(D)	0	0	0	0	0	0	0	0	0
Other	87.2	0	(D)	0	(D)	(D)	0	0	0	2.2	2.1	0.1
Rubber products	57.6	0	47.4	0	(D)	(D)	0	0	0	(D)	0	(D)
Misc. plastics products	43.4	0	41	0	9.4	9	0.3	0	0	1.2	0.7	0.6
Stone, clay, & glass products	106.6	(D)	101.3	(D)	0.5	0.3	0	0	0.3	5.1	2.8	2.3
Transportation equipment	108.7	0	83.3	0	(D)	0	(D)	0	0	(D)	(D)	(D)
Motor vehicles & equipment	75.7	0	51.2	0	0	0	0	0	0	4.6	(D)	(D)
Other	33	0	32.1	0	(D)	0	(D)	0	0	(D)	0	(D)
Instruments and related prods.	101	0	94.9	0.3	19	13.5	(D)	(D)	0	7.9	0.6	7.2
Other	44.4	0	39.7	0.1	(*)	0	0	(*)	0	1.8	(D)	(D)
Wholesale trade	317.8	0.9	67.3	7.9	15.6	9.9	5.5	(*)	0.1	5.5	2.6	2.9
Motor vehicles and equipment	43.1	0	3	0	0	0	0	0	0	0.1	(*)	0.1
Professional & commer. equip.	43.6	0	10.4	0	(D)	(D)	0.2	0	0	0	0	0
Metals and minerals	14.9	0.6	3	0	(*)	(*)	0	0	0	2.8	(D)	(D)
Electrical goods	46.2	0	9.4	0	(*)	(*)	0	0	(*)	(D)	(*)	(D)
Machinery & equipment	41.6	(*)	11.3	0	1.3	1.2	0	0	(*)	0.3	0	0.3
Other durable goods	35.9	0.1	4.5	0.1	(*)	(*)	0	(*)	0	(D)	(D)	0.8
Groceries and related products	24.1	0	3.4	3.2	0	0	0	0	0	0	0	0
Farm product raw materials	8.3	0	0.2	0.2	0	0	0	0	0	0	0	0
Other nondurable goods	60.1	0.1	22	4.3	(D)	(D)	5.3	(*)	0.1	(*)	(*)	(*)
Retail trade	930.4	1.3	111.6	55	0.1	0	0	0	0.1	(D)	(D)	0
General merchandise stores	225.2	0	(D)	(*)	0	0	0	0	0	(D)	(D)	0
Food stores	247.3	(D)	0	0	0	0	0	0	0	0	0	0
Apparel and accessory stores	81.4	0	(D)	0	0	0	0	0	0	0	0	0
Other	376.6	(D)	67.3	55	0.1	0	0	0	0.1	0	0	0
Finance, except banking	99.8	(*)	(D)	(D)	0	0	0	0	0	0	0	0
Insurance	121.5	0	(D)	0	0	0	0	0	0	0	0	0
Real estate	30.7	(*)	0.3	(*)	(*)	(*)	0	0	0	0	0	0
Services	528.5	2.4	57.4	(D)	(D)	(D)	(D)	0.7	0.3	6.9	(D)	(D)
Hotels & other lodging places	85.8	(D)	(D)	(D)	0	0	0	0	0	0	0	0
Business services	264.1	(*)	22	(D)	(D)	(D)	(*)	(D)	(*)	0.1	0	0.1
Computer & data proc. serv.	41.3	0	14.2	0	0	0	0	0	0	(*)	0	(*)
Other business services	222.8	(*)	7.8	(D)	(D)	(D)	(*)	(D)	(*)	0.1	0	0.1
Motion pictures	17	0	0	0	0	0	0	0	0	0	0	0
Engineering & arch. services	38.2	0	9.8	0	(*)	(*)	0	0	0	(D)	0.6	(D)
Account., resch. & mgmt. serv.	35.5	(D)	13.6	0	(D)	(*)	(D)	(D)	0.3	0.2	0.1	0.1
Health services	31.1	0	0	0	0	0	0	0	0	0	0	0
Other services	56.9	0.5	(D)	0	0.4	0.4	0	(*)	0	(D)	(D)	0.8
Other industries	364.4	(D)	42.3	0.3	18.4	(D)	0	(D)	0	10.5	4.4	6.1
Agriculture, forestry, & fish.	33.3	0.4	(D)	(*)	(D)	0	0	(D)	0	0	0	0
Mining	65.8	4.9	21.7	0	(D)	(D)	0	0	0	(D)	(D)	(D)
Coal	22.5	(D)	(D)	0	(D)	(D)	0	0	0	0.4	0.4	0
Other	43.3	(D)	(D)	0	0	0	0	0	0	(D)	(D)	(D)
Construction	72	(*)	10	(*)	0	0	0	0	0	5.7	(D)	(D)
Transportation	170.8	(D)	(D)	0.3	(D)	(D)	0	0	0	(D)	(D)	0
Communication & pub. utilities	22.6	0	0.8	0	0	0	0	0	0	0	0	0
Unspecified	85.1	(D)	75.9	(D)	27.3	24.1	(D)	(D)	(*)	10.4	0.9	9.4

Table 50b.—Employment by Affiliates, Industry of Sales by Industry of Affiliate, 1989—Continued

[Thousands of employees]

For the distribution by industry of sales, read the column. For the distribution by industry of affiliate, read the row.	Manufacturing, continued															
	Machinery			Other manufacturing												
	Total	Machinery, except electrical	Electric and electronic equipment	Total	Textile products and apparel	Lumber, wood, furniture, and fixtures	Paper and allied products	Printing and publishing	Rubber products	Miscellaneous plastics products	Stone, clay, and glass products	Transportation equipment			Instruments and related products	Other
												Total	Motor vehicles and equipment	Other		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
All industries	511.8	245.3	266.6	658.1	58.9	13.3	43.2	102.8	58.9	29.1	115.6	74.5	44.6	29.9	71.9	89.8
Petroleum	0.6	0.5	0.1	(D)	0	0	0	0	0	(*)	(D)	0	0	0	(D)	0
Petroleum & coal prods. manuf.	0	0	0	(D)	0	0	0	0	0	0	(D)	0	0	0	0	0
Other	0.6	0.5	0.1	(D)	0	0	0	0	0	(*)	(*)	0	0	0	(D)	0
Manufacturing	433.6	203.1	230.5	548.2	57.1	12.1	41.8	94.8	46.1	28.9	104.1	67.3	42.3	25	65.1	30.9
Food and kindred products	0	0	0	0.2	0	0	0.2	0	0	(*)	0	0	0	0	0	(*)
Beverages	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0.2	0	0	0.2	0	0	(*)	0	0	0	0	0	(*)
Chemicals and allied products	3.2	(D)	(D)	5.4	(D)	0	0	0.1	1.7	(*)	0.1	0.1	0.1	0	(D)	0
Industrial chemicals	3	(D)	(D)	1.6	0	0	0	0.1	1.4	0	0	0.1	0.1	0	0	0
Drugs	0	0	0	0.4	0	0	0	0	0	0	0	0	0	0	0.4	0
Soap, cleaners, & toiletries	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0.1	0	0.1	3.4	(D)	0	0	0	0.3	(*)	0.1	0	0	0	(D)	0
Primary and fabricated metals	4.9	(D)	(D)	4.4	(D)	0.3	(D)	0.2	0	0.8	0.4	0.6	0.5	0.1	(D)	0.2
Primary metal industries	1.4	1.3	(*)	0.8	0.4	0	0	0	0	0	0.1	0.2	0.1	0.1	0.1	0
Ferrous	1	1	0	0.2	0	0	0	0	0	0	0.1	0.1	0	0.1	0.1	0
Nonferrous	0.4	0.4	(*)	0.6	0.4	0	0	0	0	0	0	0.1	0.1	(*)	0.1	0
Fabricated metal products	3.5	(D)	(D)	3.6	(D)	0.3	(D)	0.2	0	0.8	0.3	0.4	0.4	0	(D)	0.2
Machinery	386.3	172.6	213.7	16.1	0.2	0	(D)	0.4	0.5	1.1	0.7	6.2	0.3	5.9	(D)	0.1
Machinery, except electrical	170.1	161.2	9	6.6	0.2	0	0	0.4	0.4	1.1	0.1	1.8	0.1	1.7	2.4	0.1
Computer & office equip.	32.5	31.2	1.4	(D)	0	0	0	0.1	0	0	0	0	0	0	(D)	0
Other	137.6	130	7.6	(D)	0.2	0	0	0.3	0.4	1.1	0.1	1.8	0.1	1.7	(D)	0.1
Electric & electronic equip.	216.2	11.4	204.8	9.6	0	0	(D)	(*)	(*)	0	0.6	4.4	0.2	4.2	(D)	(*)
Audio, video, & comm.	51.9	0.4	51.4	1	0	0	0	(*)	0	0	0	0.9	0	0.9	0.1	0
Electronic components	61.9	1	60.9	4.9	0	0	(D)	0	0	0	0.6	(D)	0	(D)	(D)	(*)
Other	102.4	10	92.4	3.6	0	0	0	0	(*)	0	0	(D)	0.2	(D)	(D)	0
Other manufacturing	39.3	24.9	14.4	522.1	54.8	11.8	40.4	94.1	43.9	27	102.9	60.4	41.4	19	56	30.7
Textile products and apparel	(D)	(D)	(*)	(D)	51.9	0	(*)	0	(D)	(*)	0.8	0	0	0	0	0
Lumber and furniture	5.3	(D)	(D)	14.7	0	11.7	1.5	0	0	0	(D)	0	0	0	(*)	(D)
Paper and allied products	0	0	0	44.1	0.2	0	38.2	0	0	(D)	0	0	0	0	0	(D)
Printing and publishing	(D)	(D)	0	(D)	(*)	0	0	(D)	0	0	0	0	0	0	0	0
Newspapers	0	0	0	(D)	0	0	0	(D)	0	0	0	0	0	0	0	0
Other	(D)	(D)	0	(D)	(*)	0	0	(D)	0	0	0	0	0	0	0	0
Rubber products	(D)	0	(D)	43.9	(D)	0	0	0	41.9	(D)	0	0.3	0.3	(*)	(D)	0
Misc. plastics products	0.7	0.5	0.2	29.6	(D)	0	0.6	(D)	(D)	23.7	(D)	(*)	0	(*)	0	0.4
Stone, clay, & glass products	(D)	0.2	(D)	94.6	0	0	0	0	0	(*)	94.3	0.1	0.1	0	0	0.2
Transportation equipment	4.6	4	0.6	62	0	0	0	0	(D)	0.4	(*)	59.7	40.8	18.9	(D)	0
Motor vehicles & equipment	2.7	(D)	(D)	43.9	0	0	0	0	(D)	0.4	(*)	41.7	40.8	0.9	(D)	0
Other	1.9	(D)	(D)	18.1	0	0	0	0	0	0	0	18.1	(*)	18.1	0	0
Instruments and related prods.	9.7	3.2	6.5	58	0	0.1	0	0	0	(*)	4.5	0.1	(*)	(*)	53.1	0.1
Other	10.3	8.9	1.4	27.4	0.5	0.1	(*)	0	0	0.3	0.6	0.2	0.2	0	0.7	25
Wholesale trade	22.5	5.5	17	15.9	0.6	(*)	1	0.6	3	0.1	1.2	6.5	1.8	4.6	(D)	(D)
Motor vehicles and equipment	(*)	(*)	(*)	2.9	0	0	0	0	(D)	0	0	(D)	(D)	0	0	0
Professional & commer. equip.	(D)	(D)	(D)	0.5	0	0	0	0	0	0	0	0	0	0	0.5	0
Metals and minerals	(*)	0	(*)	0.2	(*)	0	0	0	(D)	0	(*)	(D)	(D)	0	0	0
Electrical goods	8.1	0.1	8	(D)	0	0	0	(*)	0	(*)	(*)	0	0	0	(D)	0
Machinery & equipment	4.7	(D)	(D)	5.1	0	(*)	(*)	(*)	0	0.1	0	4.6	0	4.6	0.3	(*)
Other durable goods	0.5	0.5	0	(D)	0	(*)	(*)	0	(D)	(*)	1	0	0	0	(*)	(D)
Groceries and related products	0	0	0	0.2	0.1	(*)	(*)	0	0	0	0	0	0	0	0	0
Farm product raw materials	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other nondurable goods	(D)	(D)	(*)	4.2	0.5	(*)	0.9	0.5	(D)	(*)	0.1	0	0	0	(D)	0.2
Retail trade	(D)	(D)	(*)	(D)	(D)	(*)	0	0.8	(D)	(*)	0.5	0.1	0.1	0.1	0	(D)
General merchandise stores	(*)	(*)	0	(D)	0	0	0	0.3	0	(*)	(*)	0	0	0	0	(D)
Food stores	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apparel and accessory stores	0.2	0.2	0	(D)	(D)	0	0	0	0	0	0	0	0	0	0	0
Other	(D)	(D)	(*)	(D)	0	(*)	0	0.4	(D)	(*)	0.5	0.1	0.1	0.1	0	(*)
Finance, except banking	(D)	0	(D)	0.1	0	0	0	0	0	0	0	0.1	0.1	0	0	0
Insurance	0	0	0	(D)	0	0	0	0.1	0	0	0	0	0	0	(*)	(D)
Real estate	0	0	0	0.3	(D)	(*)	(*)	(D)	0	0	0	0	0	0	(*)	0
Services	18.7	12.7	6	(D)	(*)	(*)	0.2	5.8	0	0.1	(D)	0.2	(*)	0.2	1.4	0.2
Hotels & other lodging places	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Business services	11.1	11	0.1	5.7	0	0	(*)	4.8	0	(*)	0	0	0	0	(D)	(D)
Computer & data proc. serv.	10.9	10.8	(*)	3.4	0	0	0	2.6	0	0	0	0	0	0	(D)	(D)
Other business services	0.2	0.1	0.1	2.4	0	0	(*)	2.1	0	(*)	0	0	0	0	(D)	(D)
Motion pictures	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Engineering & arch. services	3	(D)	(D)	(D)	0	0	0	0	0	0	(D)	(*)	(*)	0	(*)	0
Account., resch. & mgmt. serv.	(D)	0.1	(D)	0.4	0	0	(*)	(D)	0	(*)	(*)	(*)	0	(*)	(D)	0
Health services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other services	(D)	(D)	(*)	1.8	(*)	(*)	0.1	(D)	0	(*)	0	0.2	(*)	0.2	0.4	(D)
Other industries	3.6	0.6	3	9.5	0	1.1	0.2	(D)	0.1	(*)	7.3	0.1	0	0.1	(D)	0
Agriculture, forestry, & fish.	(D)	0	(D)	0.2	0	0.2	(*)	0	0	0	0	0	0	0	0	0
Mining	0.3	0.3	0	6	0	0.5	0	0	0	(*)	5.5	0	0	0	0	0
Coal	0	0	0	(*)	0	0	0	0	0	(*)	0	0	0	0	0	0
Other	0.3	0.3	0	6	0	0.5	0	0	0	0	5.5	0	0	0	0	0
Construction	(D)	0	(D)	(D)	0	0.4	0	0	0	0	(D)	0	0	0	(*)	0
Transportation	0.2	0.2	0	(D)	0	0	0.2	0	0.1	0	(D)	0	0	0	0	0
Communication & pub. utilities	(*)	(*)	0	0.8	0	0	(*)	(D)	0	0	(*)	0.1	0	0.1	(D)	0
Unspecified	31.1	(D)	(D)	(D)	0	(*)	0	(D)	(D)	(*)	0.3	0.2	0.2	0	0.4	0

Table 50c.—Employment by Affiliates, Industry of Sales by Industry of Affiliate, 1989—Continued

[Thousands of employees]

For the distribution by industry of sales, read the column. For the distribution by industry of affiliate, read the row.	Wholesale trade										Retail trade	Finance, except banking	Insurance	Real estate	Services	Other industries
	Total	Motor vehicles and equipment	Professional and commercial equipment and supplies	Metals and minerals, except petroleum	Electrical goods	Machinery, equipment, and supplies	Other durable goods	Groceries and related products	Farm product raw materials	Other nondurable goods						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
All industries	398.7	79.5	46.3	28.0	68.6	39.9	35.7	29.4	17.1	54.3	803.9	94.9	111.6	38.1	460.7	329.1
Petroleum	0.7	0.1	0	0.3	0.2	0.1	(*)	(*)	0.1	(*)	0.5	(*)	0	0.1	0.4	1.9
Petroleum & coal prods. manuf.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(D)
Other	0.7	0.1	0	0.3	0.2	0.1	(*)	(*)	0.1	(*)	0.5	(*)	0	0.1	0.4	(D)
Manufacturing	114.7	37.2	7.2	9	25.1	6.2	5	2.2	8.9	13.8	5.2	0.1	0	0.3	11.9	11.6
Food and kindred products	11.9	0.2	0	0	0	0	0	1.9	8.9	0.8	(D)	0	0	0.1	(*)	0.5
Beverages	1	0.2	0	0	0	0	0	0	0	0.8	0	0	0	0.1	(*)	0
Other	10.8	(*)	0	0	0	0	0	1.9	8.9	0	(D)	0	0	0	(*)	0.5
Chemicals and allied products	4.7	0	(D)	0.9	0	0.2	0	0	0	2.5	0	0	0	0	0	0.8
Industrial chemicals	1.1	0	0	0.6	0	0	0	0	0	0.5	0	0	0	0	0	0.1
Drugs	1.6	0	(D)	0	0	0	0	0	0	0.6	0	0	0	0	0	0.4
Soap, cleaners, & toiletries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2
Other	2	0	0	0.3	0	0.2	0	0	0	1.4	0	0	0	0	0	0.1
Primary and fabricated metals	5.9	0.2	0.1	4.4	0.2	0.1	0.9	0	(*)	0	0	0	0	0	0.4	0.5
Primary metal industries	4.4	0	0	4	0.2	0	0.2	0	0	0	0	0	0	0	0.1	0.1
Ferrous	2.1	0	0	(D)	0	0	(D)	0	0	0	0	0	0	0	0.1	0.1
Nonferrous	2.3	0	0	(D)	0.2	0	(D)	0	0	0	0	0	0	0	0	0
Fabricated metal products	1.4	0.2	0.1	0.4	0	0.1	0.7	0	(*)	0	0	0	0	0	0.4	0.5
Machinery	37.8	2.3	3.2	2.5	24.1	4.8	0.2	0	(*)	0.6	0	0	0	0.1	5.8	6.1
Machinery, except electrical	10.5	1.9	0.7	2.5	0.8	3.9	(*)	0	(*)	0.6	0	0	0	0.1	2.4	5.9
Computer & office equip.	2.4	0	0.6	0.9	0.7	0.2	0	0	0	0.1	0	0	0	0	0.2	0
Other	8.1	1.9	0.1	1.7	0.1	3.7	(*)	0	(*)	0.5	0	0	0	0.1	2.2	5.9
Electric & electronic equip.	27.3	0.4	2.5	0	23.3	0.9	0.2	0	0	0	0	0	0	0	3.4	0.2
Audio, video, & comm.	(D)	0	(D)	0	11.8	0.1	0	0	0	0	0	0	0	0	(D)	(*)
Electronic components	8.8	0.4	(D)	0	(D)	0	(*)	0	0	0	0	0	0	0	0	0.2
Other	(D)	0	0.4	0	(D)	0.8	0.2	0	0	0	0	0	0	0	(D)	(*)
Other manufacturing	54.5	34.4	(D)	1.2	0.8	1.1	4	0.3	0	(D)	(D)	0.1	0	(*)	5.6	3.6
Textile products and apparel	(D)	0	0	0	0	0.1	0	0	0	(D)	(D)	0	0	0	0	0
Lumber and furniture	2.5	0	0.1	0	0	0	(D)	0	0	(D)	0.1	0	0	0	0	0.2
Paper and allied products	3.4	0	0	0	0	0	0	0	0	3.4	0	0	0	0	0	0
Printing and publishing	1	0	0.2	0	0	0	(D)	0	0	(D)	0	0	0	0	5.4	0.1
Newspapers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(D)	0
Other	1	0	0.2	0	0	0	(D)	0	0	(D)	0	0	0	0	(D)	0.1
Rubber products	(D)	(D)	0	0.1	0	(D)	0	0	0	0.5	(D)	0	0	0	0	0
Misc. plastics products	2.3	(D)	(*)	0	0	0	0.8	0	0	(D)	0	0	0	0	0	0.1
Stone, clay, & glass products	1.3	0.5	0	0	0.2	0	0.4	0	0	0.2	0	(*)	0	(*)	0	(D)
Transportation equipment	24.8	24.4	(*)	0	0	(*)	0	0	0	0.3	0	0.1	0	0	(*)	0.6
Motor vehicles & equipment	24.5	24.4	(*)	0	0	(*)	0	0	0	0	0	0.1	0	0	0	0
Other	0.3	(*)	0	0	0	0	0	0	0	0.3	0	(*)	0	0	(*)	0.6
Instruments and related prods.	5.8	0	2.2	1.1	0.2	0.3	(D)	0	0	(D)	0.1	0	0	0	(D)	(D)
Other	(D)	0	(D)	0	0.4	(D)	0.2	0.3	0	1.1	(D)	0	0	0	(D)	0
Wholesale trade	241.2	39.4	31	14.3	38.1	29.8	26.6	17.4	6.5	38.1	2.3	(*)	0	(*)	4.4	1.7
Motor vehicles and equipment	37.4	36.4	0.1	0.5	0.1	0.3	(*)	(*)	0	0	(D)	0	0	0	(D)	0
Professional & commer. equip.	32.6	0.1	29.9	0.1	2.4	0.1	(*)	0	0	(*)	0	0	0	(*)	0.5	(*)
Metals and minerals	11.2	0.2	(*)	9.8	(*)	0.6	(*)	(*)	0.3	0.3	0	0	0	0	0	0.1
Electrical goods	36.7	0.3	0.5	0.3	34.7	(*)	(*)	(*)	0	0.8	(*)	0	0	0	0.1	(*)
Machinery & equipment	29.3	0.6	0.2	1.1	0.3	25.9	0.8	(*)	0.2	0.2	0.1	0	0	(*)	0.8	0.1
Other durable goods	30.3	(*)	0.1	0.4	0.3	0.4	25.5	(*)	(*)	3.6	0.8	0	0	0	(D)	(D)
Groceries and related products	18.2	0.1	0	0.3	(*)	(D)	(D)	15.9	0.3	0.6	(D)	0	0	0	0	(D)
Farm product raw materials	8	0	0	0.4	(*)	(D)	(*)	(D)	5.4	(*)	0	(*)	0	0	0	0.1
Other nondurable goods	37.5	1.7	0.2	1.5	0.2	0.4	(D)	(D)	0.3	32.6	0.3	0	0	(*)	0.1	0.1
Retail trade	15.1	0.5	(D)	0.5	(D)	(D)	0.4	(D)	0	1	791.3	(*)	(*)	0.8	10.1	0.1
General merchandise stores	(D)	0	(D)	0	(D)	0	0.1	0	0	0.1	177.8	0	0	0.2	0.1	(*)
Food stores	(D)	0	0	0	0	0	0	(D)	0	0	238.7	0	0	0	(*)	0
Apparel and accessory stores	(D)	0	0	0	(*)	0	0	0	0	(D)	79.9	(*)	0	(*)	0.1	0
Other	(D)	0.5	0.2	0.5	(*)	(D)	0.3	(*)	0	(D)	294.9	(*)	(*)	0.6	9.9	0.1
Finance, except banking	1	0.7	0	(*)	0	0.2	(*)	0	0	(*)	(*)	91.7	3.6	(D)	0.1	0.1
Insurance	(*)	(*)	0	0	0	0	0	0	0	0	(*)	0.5	103.7	(D)	0.7	0
Real estate	0.1	0	0	(*)	(*)	(*)	(*)	0	0.1	(*)	0.9	0.8	0.1	26.4	1.1	0.9
Services	16.6	1.4	6.2	0.2	2.9	1.9	3.6	(*)	(*)	0.3	3.3	1.7	(D)	8.3	425.9	(D)
Hotels & other lodging places	0	0	0	0	0	0	0	0	0	0	0.8	0	0.3	3.7	70.8	1.3
Business services	8.3	0.2	3.1	(*)	(D)	0.8	(D)	(*)	(*)	0.1	1.7	0.3	(D)	(D)	229.3	1.7
Computer & data proc. serv.	2.6	0	2.4	0	(*)	0.1	(*)	(*)	0	(*)	(D)	0	(D)	(*)	23.7	0.4
Other business services	5.7	0.2	0.6	(*)	(D)	0.8	(D)	0	(*)	0.1	(D)	0.3	(D)	(D)	205.6	1.3
Motion pictures	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	16.9	0
Engineering & arch. services	0.4	0.2	0	0.1	0	0.2	0	0	0	0	0	0	0	(*)	22.8	5.1
Account., resch. & mgmt. serv.	0.7	0.1	(*)	0.1	0.3	0.1	0	(*)	0	0.1	0.1	(D)	(D)	(*)	17	0.3
Health services	(D)	0	0	0	0	0	0	0	0	(D)	(*)	0	0	(D)	28.7	0
Other services	(D)	0.9	3.1	(*)	(D)	0.7	(D)	0	(*)	(D)	0.5	(D)	(*)	(D)	40.5	(D)
Other industries	5.3	(*)	0	0.3	(*)	(D)	(*)	2.2	(D)	1.1	0.2	0.2	(D)	0.4	6	303.6
Agriculture, forestry, & fish.	3.3	0	0	0	0	(D)	0	1.9	(D)	(*)	0	(*)	0	0.3	(*)	(D)
Mining	1.3	0	0	0.3	0	0	0	0	0	1	0	0	0	(*)	0	37.8
Coal	0.3	0	0	0	0	0	0	0	0	0.3	0	0	0	0	0	7.2
Other	1	0	0	0.3	0	0	0	0	0	0.7	0	0	0	(*)	0	30.6
Construction	(*)	0	0	0	(*)	0	(*)	0	0	(*)	(*)	(*)	0.2	0.1	0.5	61.1
Transportation	0.7	(*)	0	0	0	0.2	(*)	0.4	0	(*)	0.2	0.1	0	(*)	(D)	162.6
Communication & pub. utilities	(*)	0	0	0	0	0	0	0	0	(*)	0	0	(D)	(*)	(D)	(D)
Unspecified	4.1	0.1	(D)	3.4	(D)	0.2	(*)	(D)	(D)	0	0	(*)	0	0.1	0.1	(D)

Table 51a.--Employment by Affiliates, Industry of Sales by Industry of Affiliate, 1990

[Thousands of employees]

For the distribution by industry of sales, read the column. For the distribution by industry of affiliate, read the row.	All industries	Petroleum	Manufacturing									
			Total	Food and kindred products	Chemicals and allied products					Primary and fabricated metals		
					Total	Industrial chemicals and synthetics	Drugs	Soap, cleaners, and toilet goods	Other	Total	Primary metal industries	Fabricated metal products
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
All industries	4705.3	151	2197.1	250	510.4	312.3	114.1	61.1	22.9	267.9	135	132.8
Petroleum	131.7	114	15	(*)	(D)	(D)	0	(D)	(*)	0.2	0.2	(*)
Petroleum & coal prods. manuf.	90.6	76.2	14.3	0	(D)	(D)	0	(D)	0	(*)	(*)	0
Other	41	37.9	0.6	(*)	0.4	0.3	0	0	(*)	0.1	0.1	(*)
Manufacturing	2006	20.8	1832.1	170.3	379.9	221.4	82.3	54.1	22.2	234.2	122	112.2
Food and kindred products	202.8	(D)	183.1	167.2	15.6	0.1	0.5	15	(*)	0.1	0	0.1
Beverages	28.6	0	27.7	26.9	0.8	(*)	0	0.8	0	0	0	0
Other	174.1	(D)	155.4	140.3	14.8	0.1	0.5	14.2	(*)	0.1	0	0.1
Chemicals and allied products	331.2	10.7	314.3	(D)	301.1	169.5	76.3	37.2	18.1	(D)	(D)	0
Industrial chemicals	146	(D)	136.7	0.1	128.7	122.3	(D)	(D)	1.3	3.5	3.5	0
Drugs	86.1	0	84.4	0.4	83.4	16.1	67.4	0	0	(D)	(D)	0
Soap, cleaners, & toiletries	38.5	0.1	38.2	(D)	37.3	2.3	(D)	33.3	0	(D)	(D)	0
Other	60.6	(D)	54.9	(*)	51.6	28.9	(D)	(D)	16.8	(*)	(*)	0
Primary and fabricated metals	214	0.2	205.3	0	0.2	0.1	0	0	0.2	188.1	103.3	84.8
Primary metal industries	111.6	0.2	105.9	0	0.2	0.1	0	0	0.2	104.1	101.6	2.5
Ferrous	69.5	(*)	67.1	0	0	0	0	0	0	66	64.2	1.9
Nonferrous	42.1	0.1	38.8	0	0.2	0.1	0	0	0.2	38.1	37.4	0.7
Fabricated metal products	102.5	0	99.5	0	0	0	0	0	0	84	1.7	82.3
Machinery	490.5	3.4	433.7	0.1	14.5	13.4	0.1	1	(*)	12.5	4.7	7.8
Machinery, except electrical	216.8	2.8	194.9	(*)	8.1	(D)	0	(D)	(*)	9.1	2.9	6.2
Computer & office equip.	45.4	0.5	41.1	0	0	0	0	0	0	(D)	(D)	0.1
Other	171.4	2.3	153.8	(*)	8.1	(D)	0	(D)	(*)	(D)	(D)	6.2
Electric & electronic equip.	273.7	0.6	238.8	0.1	6.4	(D)	0.1	(D)	0	3.4	1.8	1.6
Audio, video, & comm.	79.5	(*)	58.9	(*)	0	0	0	0	0	(D)	(D)	0
Electronic components	86.2	0.6	78.1	(*)	0.1	0.1	0	0	0	1.4	0.1	1.3
Other	108.1	0	101.8	0	6.3	(D)	0.1	(D)	0	(D)	(D)	0.3
Other manufacturing	767.5	(D)	695.6	(D)	48.5	38.3	5.4	0.9	3.9	(D)	(D)	19.4
Textile products and apparel	64.4	0	62.1	0	2.1	(D)	0	0	(D)	(D)	0	(D)
Lumber and furniture	26.9	0	24	(D)	0	0	0	0	0	(D)	0	(D)
Paper and allied products	49.7	0	46	0	0	0	0	0	0	0.1	0.1	0
Printing and publishing	109.4	0	103.3	(D)	(D)	(D)	0	0	0	0	0	0
Newspapers	23.6	0	(D)	0	0	0	0	0	0	0	0	0
Other	85.8	0	(D)	(D)	(D)	(D)	0	0	0	0	0	0
Rubber products	67.8	0	58.2	0	0.3	0.3	0	0	0	(D)	0	(D)
Misc. plastics products	52.7	0	50.3	(*)	13	(D)	0	0	(D)	2.5	(D)	1.1
Stone, clay, & glass products	108	(*)	104.9	0	(D)	0.3	0	(D)	0.3	6.5	5.2	1.3
Transportation equipment	128.6	0	100	0	(D)	0.3	(D)	0	0	15.1	(D)	(D)
Motor vehicles & equipment	87.1	0	60.3	0	0.3	0.3	0	0	0	(D)	(D)	(D)
Other	41.5	0	39.8	0	(D)	0	(D)	0	0	(D)	0	(D)
Instruments and related prods.	109.2	(D)	100.4	0.1	19.2	14.6	(D)	(D)	0	2.2	(D)	(D)
Other	50.9	0	46.4	(*)	(D)	(D)	0	(*)	0.3	(D)	0.7	(D)
Wholesale trade	344.4	0.7	79.3	8.2	(D)	11.8	6.7	0.1	(D)	(D)	7.7	(D)
Motor vehicles and equipment	41.4	0	(D)	0	0	0	0	0	0	0.1	(*)	0.1
Professional & commer. equip.	42.8	0	12.2	0	(D)	(D)	(D)	0	0	0	0	0
Metals and minerals	22.3	0.4	8.5	0	(*)	(*)	0	0	0	8.4	7.5	0.9
Electrical goods	49	0	12.7	0	(*)	0	0	0	(*)	(D)	0.1	(D)
Machinery & equipment	40.9	(*)	(D)	0	(D)	(D)	0	0	0	0.3	(*)	0.3
Other durable goods	38.3	0.2	5.4	0.1	0.1	(*)	0	(*)	0	0.1	0.1	0.1
Groceries and related products	29.4	0	2.4	2.4	0	0	0	0	0	0	0	0
Farm product raw materials	7.2	0	0.2	0.2	0	0	0	0	0	0	0	0
Other nondurable goods	73	0.1	24.1	5.5	13.1	7.7	(D)	(*)	(D)	(*)	(*)	(*)
Retail trade	850.7	(D)	76	59	(D)	0	0	(D)	(D)	(*)	0	(*)
General merchandise stores	125.6	(D)	(D)	(*)	(D)	0	0	(D)	0	0	0	0
Food stores	318.3	0.9	(*)	(*)	0	0	0	0	0	0	0	0
Apparel and accessory stores	96.5	0	(D)	0	0	0	0	0	0	0	0	0
Other	310.3	(D)	74.3	58.9	(D)	0	0	0	(D)	(*)	0	(*)
Finance, except banking	63.9	(*)	1.8	(D)	0	0	0	0	0	(*)	(*)	0
Insurance	120.5	0	0.1	0	0	0	0	0	0	0	0	0
Real estate	37	0.2	0.2	(*)	0.1	0.1	0	(*)	0	0.1	0	0.1
Services	645.3	3.2	69	(D)	25.2	(D)	(D)	0.7	0.3	(D)	0.3	(D)
Hotels & other lodging places	138.1	(D)	(D)	(D)	0	0	0	0	0	0	0	0
Business services	268.4	(D)	23.4	(D)	(D)	(D)	(*)	(D)	(*)	0.1	(*)	0.1
Computer & data proc. serv.	50.2	(D)	16.9	0	0	0	0	0	0	(*)	0	(*)
Other business services	218.2	0.1	6.5	(D)	(D)	(D)	(*)	(D)	(*)	0.1	(*)	0.1
Motion pictures	28.4	0	0	0	0	0	0	0	0	0	0	0
Engineering & arch. services	42.5	0	9.4	0	(D)	(*)	(D)	0	(*)	0.7	0.1	0.6
Account., resch. & mgmt. serv.	38.9	0.8	(D)	0.1	(D)	0.2	(D)	(*)	0.3	0.1	0.1	0
Health services	59.6	0	0	0	0	0	0	0	0	0	0	0
Other services	69.4	(D)	4.5	(*)	(D)	0.5	0	(D)	(*)	(D)	(*)	(D)
Other industries	426.8	3	57.2	0.4	33.6	25.9	(D)	(D)	0.1	11.6	(D)	(D)
Agriculture, forestry, & fish.	33.3	0.4	9.4	(*)	9	(D)	(D)	(D)	0	0	0	0
Mining	78.8	1.8	32.6	0	(D)	(D)	0	0	0	(D)	(D)	(D)
Coal	30.5	(D)	(D)	0	(D)	(D)	0	0	0	(*)	(*)	0
Other	48.3	(D)	(D)	0	0	0	0	0	0	(D)	(D)	(D)
Construction	70.2	(*)	10.6	0	0.2	0	0.2	0	0.1	7.1	0.2	6.9
Transportation	218	0.7	3.7	0.4	(D)	(D)	0	0	0.1	(D)	(D)	0
Communication & pub. utilities	26.6	(*)	1	(*)	0	0	0	0	0	0	0	0
Unspecified	79.1	(D)	66.4	(D)	39.6	37.4	2	0.2	(*)	9.8	(D)	(D)

Table 51b.—Employment by Affiliates, Industry of Sales by Industry of Affiliate, 1990—Continued

[Thousands of employees]

For the distribution by industry of sales, read the column. For the distribution by industry of affiliate, read the row.	Manufacturing, continued															
	Machinery			Other manufacturing												
	Total	Machinery, except electrical	Electric and electronic equipment	Total	Textile products and apparel	Lumber, wood, furniture, and fixtures	Paper and allied products	Printing and publishing	Rubber products	Miscellaneous plastics products	Stone, clay, and glass products	Transportation equipment			Instruments and related products	Other
												Total	Motor vehicles and equipment	Other		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
All industries	507.3	211.6	295.7	661.5	60.6	19.4	48.7	120.2	70.4	30.9	122.8	83.9	53	30.8	70.6	34.1
Petroleum	0.1	0	0.1	(D)	0	0	0	(*)	(*)	0	(D)	0	0	0	0	0
Petroleum & coal prods. manuf.	0	0	0	(D)	0	0	0	0	0	0	(D)	0	0	0	0	0
Other	0.1	0	0.1	0.1	0	0	0	(*)	(*)	0	(*)	0	0	0	0	0
Manufacturing	443.4	185.2	258.2	604.2	58.2	16.5	46.5	105.6	57.9	30.7	107.6	81.2	51.6	29.6	68.2	31.8
Food and kindred products	0	0	0	0.2	0	0	0.1	0	0	(*)	0	0	0	0	0	0.1
Beverages	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0.2	0	0	0.1	0	0	(*)	0	0	0	0	0	0.1
Chemicals and allied products	3.4	0.2	3.1	5	(*)	0.5	0	(*)	(D)	0.1	0.2	0.1	0.1	0	(D)	0
Industrial chemicals	2.6	0.1	2.4	1.9	0	0.5	0	0	(D)	0.1	0	0.1	0.1	0	(D)	0
Drugs	0	0	0	(D)	0	0	0	0	0	0	0	0	0	0	(D)	0
Soap, cleaners, & toiletries	0.1	0.1	0	(D)	(*)	0	0	0	0	0	0	0	0	0	(D)	0
Other	0.7	0	0.7	2.6	0	0	0	(*)	(D)	(*)	0.2	0	0	0	(D)	0
Primary and fabricated metals	14	4.9	9.1	3	0.5	0.4	0.8	0.2	0	0.5	0.3	0.1	0	0.1	0.3	0
Primary metal industries	0.6	0.6	0	0.9	0.4	0.4	0	0	0	0	0	0.1	0	0.1	0.1	0
Ferrous	0.6	0.6	0	0.5	0	0.4	0	0	0	0	0	(*)	0	(*)	0.1	0
Nonferrous	0	0	0	0.4	0.4	0	0	0	0	0	0	(*)	0	(*)	(*)	0
Fabricated metal products	13.4	4.3	9.1	2.1	(*)	0	0.8	0.2	0	0.5	0.3	(*)	0	(*)	0.3	0
Machinery	388.7	164.9	223.7	18	0.2	0.2	(*)	5.2	(D)	0.7	0.7	4.1	0.3	3.8	(D)	0.4
Machinery, except electrical	169.4	159.3	10.1	8.3	0.2	0	0	(D)	(D)	0.7	0.2	1.4	0.1	1.3	1.2	0.4
Computer & office equip.	39.4	37.6	1.9	(D)	0	0	0	0.3	0	0	(*)	(D)	0	(D)	(*)	0
Other	130	121.7	8.2	(D)	0.2	0	0	(D)	(D)	0.7	0.2	(D)	0.1	(D)	1.2	0.4
Electric & electronic equip.	219.3	5.6	213.6	9.7	0	0.2	(*)	(D)	0	0	0.5	2.7	0.2	2.5	(D)	(*)
Audio, video, & comm.	55.5	0.3	55.2	(D)	0	0	0	(D)	0	0	0	0	0	0	(*)	0
Electronic components	72.4	3.8	68.6	4.2	0	0	0	(*)	0	0	0.5	2.4	0	2.4	1.4	(*)
Other	91.4	1.5	89.9	(D)	0	0.2	(*)	0	0	0	0	0.3	0.2	0.1	(D)	0
Other manufacturing	37.4	15.2	22.2	577.9	57.5	15.5	45.6	100.1	55.1	29.5	106.4	76.9	51.2	25.8	59.9	31.3
Textile products and apparel	(D)	(D)	0	58.9	56.5	0	0	0	1.9	(*)	0.5	0	0	0	0	0
Lumber and furniture	4.7	(D)	(D)	17.2	0	15	0.5	0	0	0	0.5	0	0	0	(D)	(D)
Paper and allied products	0.1	0.1	0	45.7	0	0	44.3	0	0	1.4	0	0	0	0	0	0
Printing and publishing	0.1	0.1	0	100.2	(*)	0	0	100.1	0	0	0	0	0	0	0	0
Newspapers	0	0	0	(D)	0	0	0	(D)	0	0	0	0	0	0	0	0
Other	0.1	0.1	0	(D)	(*)	0	0	(D)	0	0	0	0	0	0	0	0
Rubber products	(D)	(D)	(D)	52.8	(D)	0	0	0	51.4	(*)	0	0.4	0.3	0.1	(D)	0
Misc. plastics products	1.7	1	0.7	33.2	(D)	0	0.7	0	(D)	27	3.4	0	0	0	0	(D)
Stone, clay, & glass products	(D)	0.3	(D)	96.4	0	0.4	0	0	0	(*)	95.7	0.1	0.1	0	0	0.2
Transportation equipment	(D)	(D)	1.1	77.9	0	0	0	0	(D)	0.3	(D)	75.7	50.7	25	(D)	0
Motor vehicles & equipment	(D)	(D)	(*)	53.3	0	0	0	0	0	0.3	(D)	52.3	50.7	1.6	(D)	0
Other	3	1.9	1.1	24.7	0	0	0	0	(D)	0	(D)	23.5	(*)	23.4	0	0
Instruments and related prods.	15.7	4.2	11.4	63.3	0	0.1	0	0	0	(*)	(D)	0.7	(*)	0.7	57.8	(D)
Other	3.6	1.2	2.4	32.4	0.5	0	(*)	0	0.1	0.7	0.8	0	0	0	0.7	29.4
Wholesale trade	26.3	9.1	17.3	15.9	1.5	(D)	1.6	1.1	(D)	0.1	1.4	(D)	(D)	(D)	1.3	2.2
Motor vehicles and equipment	(*)	(*)	(*)	(D)	0	0	0	0	(D)	0	0	(D)	(D)	0	0	0
Professional & commer. equip.	(D)	(D)	(D)	(D)	0	0	0	(*)	0	0	0	0	0	0	(D)	0
Metals and minerals	(*)	0	(*)	0.1	0.1	0	0	0	0	0	0.1	0	0	0	0	0
Electrical goods	11.3	(D)	(D)	(D)	0	0	0	(*)	0	(*)	(*)	0	0	0	(D)	0
Machinery & equipment	(D)	4	(D)	1.9	0	(*)	(*)	(*)	0	(*)	0.1	(D)	0	(D)	0.4	(D)
Other durable goods	0.1	0.1	0	5.1	0	(D)	0.2	0.5	(*)	0.1	1.1	0	0	0	(*)	(D)
Groceries and related products	0	0	0	(*)	0	(*)	(*)	0	0	0	0	0	0	0	0	0
Farm product raw materials	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other nondurable goods	0.5	0.5	0.1	5	1.4	(*)	1.3	0.5	(D)	(*)	0.1	0	0	0	(D)	0.3
Retail trade	(D)	(D)	0	15.1	0.9	(D)	0	4.2	(D)	(*)	0.6	(D)	0	(D)	0	0
General merchandise stores	(*)	(*)	0	0.4	0	0	0	0.3	0	(*)	(*)	0	0	0	0	0
Food stores	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apparel and accessory stores	(D)	(D)	0	0.9	0.9	0	0	0	0	0	0	0	0	0	0	0
Other	(D)	(D)	0	13.8	0	(D)	0	3.9	(D)	(*)	0.6	(D)	0	(D)	0	0
Finance, except banking	(D)	(D)	0.1	(D)	0	0	0	0.1	0	0	0	(D)	(D)	(*)	0	0
Insurance	0	0	0	0.1	0	0	0	0.1	0.1	0	0	0	0	0	(*)	0
Real estate	(*)	(*)	(*)	0.1	(*)	(*)	(*)	(*)	0	0	0	0	0	0	(*)	0
Services	23.1	13.2	9.9	(D)	0	(*)	0.2	8.5	(*)	(*)	(D)	0.3	0.1	0.2	0.7	0.1
Hotels & other lodging places	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Business services	11.2	11.1	0.1	8.1	0	0	0.1	7.9	0	0	0	(*)	0	(*)	0.1	(*)
Computer & data proc. serv.	11	10.9	0.1	5.8	0	0	0	5.8	0	0	0	(*)	0	(*)	0	(*)
Other business services	0.2	0.2	0	2.3	0	0	0.1	2.1	0	0	0	(*)	0	(*)	0.1	0
Motion pictures	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Engineering & arch. services	6.8	(D)	(D)	(D)	0	0	0	0	0	0	(D)	0.1	(*)	(*)	(*)	0
Account., resch. & mgmt. serv.	3.2	(D)	(D)	(D)	0	0	(*)	0.2	0	(*)	(D)	0.1	0.1	(*)	0.1	0
Health services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other services	1.9	(D)	(D)	1.2	0	(*)	0.1	0.4	(*)	(*)	0	0.1	0	0.1	0.5	0.1
Other industries	1.2	0.4	0.8	10.5	(*)	1	0.3	0.6	0.1	0	8.2	0.1	0	0.1	0.1	0
Agriculture, forestry, & fish.	0	0	0	0.3	0	0.1	0.2	0	0	0	0	0	0	0	0	0
Mining	0.4	0.4	0	6.2	0	0.3	0	0	(*)	0	5.9	0	0	0	0	0
Coal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0.4	0.4	0	6.2	0	0.3	0	0	(*)	0	5.9	0	0	0	0	0
Construction	0.6	0	0.6	2.6	(*)	0.6	0	0	0	0	2	0	0	0	(*)	0
Transportation	(*)	(*)	0	0.6	0	0	0.2	(D)	0.1	0	(D)	0	0	0	0	0
Communication & pub. utilities	0.2	0	0.2	0.8	0	0	0	(D)	0	0	(D)	0.1	0	0.1	0.1	0
Unspecified	11.2	1.9	9.3	(D)	(*)	0	0	0.1	(*)	0	(D)	0.1	0.1	0	0.2	0

Table 51c.—Employment by Affiliates, Industry of Sales by Industry of Affiliate, 1990—Continued

[Thousands of employees]

For the distribution by industry of sales, read the column. For the distribution by industry of affiliate, read the row.	Wholesale trade										Retail trade	Finance, except banking	Insurance	Real estate	Services	Other industries
	Total	Motor vehicles and equipment	Professional and commercial equipment and supplies	Metals and minerals, except petroleum	Electrical goods	Machinery, equipment, and supplies	Other durable goods	Groceries and related products	Farm product raw materials	Other nondurable goods						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
All industries	436.8	83.1	40	29.3	82.3	39.6	41.6	41.8	18.2	60.9	756.6	53.8	126.6	45.8	553.5	385.1
Petroleum	1.5	0.1	0	0.5	0.2	0.1	(*)	0.3	0.3	(*)	0.4	(*)	(*)	(*)	(*)	0.8
Petroleum & coal prods. manuf.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2
Other	1.5	0.1	0	0.5	0.2	0.1	(*)	0.3	0.3	(*)	0.4	(*)	(*)	(*)	(*)	0.6
Manufacturing	119.7	39.2	5.1	11	28.4	6	6	1.8	9	13.1	7.2	(*)	0	0.7	14.7	10.7
Food and kindred products	11.7	0.5	0.1	0	0	0	0	1.8	9	0.4	(D)	0	0	0.1	0.1	0.5
Beverages	0.8	0.4	0	0	0	0	0	0	0	0.4	0	0	0	0.1	(*)	0
Other	10.9	(*)	0.1	0	0	0	0	1.8	9	0	(D)	0	0	0	(*)	0.5
Chemicals and allied products	6.3	0	(D)	1.2	0	0.2	(D)	0	0	2.6	0	(*)	0	0	0	(*)
Industrial chemicals	(D)	0	0	0.6	0	0	(D)	0	0	0.7	0	(*)	0	0	0	(*)
Drugs	1.7	0	(D)	(D)	0	0	0	0	0	0.4	0	0	0	0	0	0
Soap, cleaners, & toiletries	0.1	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0
Other	(D)	0	0	(D)	0	0.2	0	0	0	1.4	0	0	0	0	0	(*)
Primary and fabricated metals	7.5	0.1	0.1	5.6	0	0.4	0.9	0	0	0.5	0.1	0	0	0.1	0.7	0.1
Primary metal industries	5.4	0	0	4.6	0	0	0.2	0	0	0.5	0	0	0	0	0.1	0.1
Ferrous	2.2	0	0	1.9	0	0	0.2	0	0	0	0	0	0	0	0.1	0.1
Nonferrous	3.2	0	0	2.7	0	0	0	0	0	0.5	0	0	0	0	0	0
Fabricated metal products	2.2	0.1	0.1	1	0	0.4	0.6	0	0	0	0.1	0	0	0.1	0.6	(*)
Machinery	39.8	3.7	0.3	2.3	27	5.1	1.2	0	0	0.2	0	0	0	(*)	7.3	6.3
Machinery, except electrical	10.9	2.2	0.3	2.2	1.6	4.2	0.2	0	0	0.2	0	0	0	0	1.9	6.3
Computer & office equip.	3.6	0.2	0.2	0.9	1.4	0.8	0	0	0	0.1	0	0	0	0	0.2	0
Other	7.3	2	0.1	1.2	0.3	3.4	0.2	0	0	0.2	0	0	0	0	1.7	6.3
Electric & electronic equip.	28.9	1.5	0	0.1	25.4	0.9	1.1	0	0	0	0	0	0	(*)	5.4	0
Audio, video, & comm.	15.9	0	0	0	15.8	0.1	0	0	0	0	0	0	0	0	4.7	0
Electronic components	7.5	(D)	0	0.1	(D)	0	0.5	0	0	0	0	0	0	(*)	(*)	0
Other	5.5	(D)	0	0	(D)	0.8	0.5	0	0	0	0	0	0	0	0.7	0
Other manufacturing	54.4	35	(D)	1.9	1.4	0.4	(D)	0	0	9.4	(D)	(*)	0	0.6	6.6	3.7
Textile products and apparel	0.5	0	0	0	0	(*)	0	0	0	0.4	(D)	0	0	0.5	(D)	0
Lumber and furniture	2.7	0	(D)	0	0	0	0.5	0	0	(D)	0.1	0	0	0	0	0.2
Paper and allied products	3.7	0	0	0	0	0	0	0	0	3.7	0	0	0	(*)	0	0
Printing and publishing	(D)	0	(D)	0	0	0	(D)	0	0	(*)	0	0	0	(*)	5.5	(D)
Newspapers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(D)	0
Other	(D)	0	(D)	0	0	0	(D)	0	0	(*)	0	0	0	(*)	(D)	(D)
Rubber products	(D)	(D)	0	0	0	0.1	0	0	0	0.3	(D)	0	0	0	0	0
Misc. plastics products	2.3	0.1	(*)	0	0	0	0.9	0	0	1.2	0	0	0	0	0	0.1
Stone, clay, & glass products	(D)	(D)	0	0	0.2	0	0	0	0	(D)	0	0	0	(*)	0	(D)
Transportation equipment	27.6	25.7	0.1	0.8	0.6	(*)	0	0	0	0.4	0	(*)	0	0	(D)	(D)
Motor vehicles & equipment	26.8	25.7	0.1	0.3	0.6	(*)	0	0	0	0	0	(*)	0	0	0	0
Other	0.8	(*)	0	0.4	0	0	0	0	0	0.4	0	0	0	0	(D)	(D)
Instruments and related prods.	5.2	0.1	2.5	0.9	0.5	0.2	0.8	0	0	0.3	0.1	0	0	0	(D)	(*)
Other	2	0	0.5	0.3	(*)	0	0.5	0	0	0.6	2.4	0	0	0	(*)	0
Wholesale trade	255.5	37.3	27.8	14.7	38.7	28.5	30.8	25.1	7.1	45.5	1.8	0.1	0	(*)	5.2	1.8
Motor vehicles and equipment	35.7	34.8	0.1	0.4	0.1	0.3	(*)	0	0	0	(*)	(*)	0	0	(D)	0
Professional & commer. equip.	30.1	(*)	27.3	(*)	2.6	0.1	(*)	0	0	(*)	0	0	0	(*)	0.5	(*)
Metals and minerals	13.3	0.1	(*)	11.5	(*)	0.8	(*)	(*)	0.3	0.5	0	0	0	0	0	0.1
Electrical goods	36.1	0.2	0.1	0.2	34.9	(*)	0.5	0.1	0	(*)	0	0	0	(*)	0.3	0
Machinery & equipment	28.8	0.5	0.2	1.3	0.6	25.4	0.6	(*)	0.1	(*)	(D)	(*)	0	0	(D)	(D)
Other durable goods	31.5	(*)	(*)	0.3	(D)	0.4	28.8	(*)	0.1	(D)	0.8	0	0	0	0.3	0.2
Groceries and related products	25.2	(D)	0	0.2	(*)	0.8	(*)	23.9	0.2	(D)	(D)	0	0	0	0	(D)
Farm product raw materials	7	0	0	0.4	(*)	0.3	(*)	0.2	6.1	(*)	0	(*)	0	(*)	0	(*)
Other nondurable goods	47.8	(D)	(*)	0.4	(D)	0.5	0.8	0.7	0.3	43.4	0.6	0	0	(*)	0.3	0.1
Retail trade	20.6	0.3	(D)	0.1	(D)	(D)	0.5	13	0	0.8	738.6	(*)	(*)	0.5	13.6	(D)
General merchandise stores	4.3	0	(D)	0	(D)	0	0.2	0	0	0.1	120.2	0	0	(*)	(D)	(*)
Food stores	13	0	0	0	0	0	0	13	0	0	304.1	0	0	0.2	(*)	0
Apparel and accessory stores	0.3	0	0	0	0	0	0	0	0	0.3	94.7	(*)	0	(*)	(D)	0
Other	2.9	0.3	(D)	0.1	(*)	(D)	0.3	(*)	0	0.3	219.6	(*)	(*)	0.1	13.2	(D)
Finance, except banking	2.5	2.3	0	0.1	0	0.2	(*)	0	0	0	0.1	52.9	3.8	(D)	(D)	(D)
Insurance	0.1	0.1	0	0	0	(*)	0	0	0	0	0	(*)	119	(D)	(D)	0
Real estate	0.1	(*)	0	(*)	(*)	(*)	(*)	0	0.1	(*)	0.7	0.1	0.1	32.9	1.5	1.2
Services	27.6	3.1	5.2	0.2	11.9	2.6	3.9	0.6	0.1	0.1	6.6	0.5	3.3	8.5	510.8	15.8
Hotels & other lodging places	(D)	0	0	0	0	0	0	(D)	0	0	2.9	0.1	0.2	3.9	116.5	5.6
Business services	9.4	0.4	(D)	(*)	(D)	(D)	(D)	(*)	(*)	(*)	(D)	0.1	0.5	0.1	230.9	2.3
Computer & data proc. serv.	2	0.1	1.5	0	0.1	0.1	0.2	(*)	0	(*)	(D)	0	(*)	(*)	30	0.4
Other business services	7.4	0.3	(D)	(*)	(D)	(D)	(D)	(*)	(*)	(*)	0.8	0.1	0.4	0.1	200.9	1.9
Motion pictures	(D)	0	0	0	(D)	0	0	0	0	0	(D)	0	0	(*)	19.4	0
Engineering & arch. services	1.1	0.6	(*)	0.1	0	0.4	0	0	0	0	0	0	0	(*)	26	5.9
Account., resch. & mgmt. serv.	1.5	0.7	0.2	(*)	0.3	(D)	0	(D)	(*)	0.1	(D)	0.1	(D)	(*)	8.2	1.2
Health services	0	0	0	0	0	0	0	0	0	0	(*)	0	(D)	(D)	56.8	0
Other services	6.7	1.3	(D)	(*)	2	0.8	(D)	0	(*)	(*)	1.9	0.2	0	(D)	53	0.9
Other industries	4.9	0	0	0.1	0.1	0.4	0.3	1	1.6	1.3	0.2	0.2	0.5	0.3	5.8	354.6
Agriculture, forestry, & fish.	2.6	0	0	0	0	(*)	0	1	1.5	(*)	0	0	0	0.2	(*)	20.8
Mining	1	0	0	0.1	0	0	0	0	0	0.9	0	0	0	(*)	0	43.3
Coal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.7
Other	1	0	0	0.1	0	0	0	0	0	0.9	0	0	0	(*)	0	35.6
Construction	0.1	0	0	0	0	(*)	(*)	0	0	(*)	(*)	(*)	(D)	(*)	(D)	58.5
Transportation	1.2	0	0	0	0	0.4	0.3	(*)	0.2	0.3	0.2	0.2	0	(*)	2.8	209.1
Communication & pub. utilities	0.1	0	0	0	0.1	0	0	0	0	(*)	0	0	(D)	0.1	(D)	22.9
Unspecified	4.3	0.6	(D)	2.7	(D)	(D)	(*)	(*)	(*)	(*)	(*)	(*)	0	(D)	(D)	0.1

Table 52.--Gross Wages and Salaries Paid by Affiliates, by Industry of Affiliate, 1980-86

[Millions of dollars]

	1980	1981	1982	1983	1984	1985	1986
All industries	33120	44965	50139	54298	59437	65688	71525
Mining	523	1026	1159	842	964	1034	904
Petroleum	2170	2983	3456	3461	3800	3970	3957
Manufacturing	18687	26421	27685	30204	33207	36442	37783
Food and kindred products	1601	1967	2075	2335	2587	2953	3154
Chemicals and allied products ..	4931	9400	9765	10072	10756	11570	11176
Industrial chemicals	2371	6513	6903	6989	7307	7625	7699
Drugs	614	708	843	1072	1216	1329	2005
Soap, cleaners, & toiletries .	622	672	719	699	789	942	1195
Agricultural chemicals	(D)	(D)	(D)	(D)	(D)	(D)	74
Other	(D)	(D)	(D)	(D)	(D)	(D)	203
Primary and fabricated metals ..	2069	2341	2345	3661	4126	4568	4622
Primary metal industries	1469	1676	1607	2044	2562	2941	2504
Fabricated metal products	600	665	737	1616	1564	1627	2118
Machinery	4962	5970	6338	6581	7305	7728	8584
Machinery, except electrical .	2232	2884	3171	2990	3052	2993	2563
Electric & electronic equip. .	2730	3086	3167	3591	4254	4735	6021
Other manufacturing	5125	6743	7162	7555	8432	9623	10247
Textile products and apparel .	326	569	531	523	545	627	568
Lumber and furniture	110	87	89	184	239	217	317
Paper and allied products	689	1304	1350	1272	1215	1254	1044
Printing and publishing	685	794	885	1124	1492	1751	2142
Rubber and plastics products .	343	441	439	507	427	441	571
Stone, clay & glass products .	879	913	1155	1391	1686	2052	2382
Transportation equipment	1404	1716	1785	1600	1809	1956	1790
Instruments & related prods. .	368	479	469	461	502	624	1008
Other	321	439	460	493	519	702	426
Wholesale trade	3966	4955	6181	6542	6828	7542	8408
Motor vehicles and equipment ...	842	1060	1187	1304	1598	1961	2051
Metals and minerals	673	930	1176	970	537	608	692
Other durable goods	1536	1823	2431	2792	3011	3366	3729
Farm product raw materials	442	520	629	596	625	467	478
Other nondurable goods	473	622	757	881	1058	1141	1457
Retail trade	3141	3688	4509	4774	5018	5343	6332
Food strs.,eat. & drink.places .	2050	2378	2421	2392	2434	2622	2205
Retail trade, nec	1091	1310	2088	2382	2584	2721	4127
Finance, except banking	744	619	1042	1882	2249	3024	4896
Insurance	978	1098	1339	1373	1342	1592	1728
Real estate	337	508	422	450	501	615	694
Other industries	2575	3669	4346	4770	5527	6125	6823
Agriculture	116	132	149	153	121	130	156
Forestry and fishing	1	2	3	3	3	3	4
Construction	808	1287	1316	1072	1073	1122	1319
Transportation	612	747	1047	1228	1313	1190	1509
Communication & pub. utilities .	36	40	107	147	173	224	333
Services	1000	1460	1724	2168	2845	3455	3502

Table 53.--Gross Wages and Salaries Paid by Affiliates, ny INdustry of Affiliate, 1987-90
[Millions of dollars]

	1987	1988	1989	1990
All industries	79926	99217	118658	131414
Petroleum	3749	4706	4498	5114
Petroleum & coal prods. manuf.	2946	3315	3567	3504
Other	804	1391	931	1610
Manufacturing	41855	51036	61768	69836
Food and kindred products	3148	4056	5276	5735
Beverages	831	1168	817	839
Other	2317	2888	4458	4896
Chemicals and allied products	12789	13770	15677	19444
Industrial chemicals	8709	8980	10137	12292
Drugs	2226	2659	3286	4437
Soap, cleaners, & toiletries	1312	1458	1928	2027
Other	542	674	327	687
Primary and fabricated metals	4626	5909	8940	8860
Primary metal industries	2529	2697	3634	4753
Ferrous	1232	1273	1577	2714
Nonferrous	1297	1424	2057	2039
Fabricated metal products	2097	3212	5306	4107
Machinery	8658	12448	14820	16483
Machinery, except electrical	3275	5069	7164	6900
Computer & office equip.	1310	1481	1810	2387
Other	1965	3588	5354	4512
Electric & electronic equip.	5384	7379	7655	9584
Audio, video, & comm.	2466	2971	3007	3282
Electronic components	923	1321	1664	1791
Other	1994	3087	2984	4511
Other manufacturing	12634	14853	17055	19315
Textile products and apparel	716	906	1123	1204
Lumber and furniture	254	300	290	477
Paper and allied products	1225	1353	1480	1564
Printing and publishing	1951	2367	2801	3612
Newspapers	319	371	392	(D)
Other	1632	1997	2409	(D)
Rubber products	777	1553	1724	2285
Misc. plastics products	429	567	698	786
Stone, clay, & glass products	2737	2788	3302	3691
Transportation equipment	1493	1595	1953	2458
Motor vehicles & equipment	922	930	1238	1554
Other	571	665	715	904
Instruments and related prods.	1698	1701	2001	2082
Other	1353	1723	1683	1156
Wholesale trade	9094	10444	12001	13581
Motor vehicles and equipment	2244	2315	2507	2989
Professional & commer. equip.	1035	1157	1556	1489
Metals and minerals	830	878	938	1037
Electrical goods	1246	1595	2026	2319
Machinery & equipment	866	1214	1310	1344
Other durable goods	632	889	939	1163
Groceries and related products	470	544	673	956
Farm product raw materials	388	428	454	495
Other nondurable goods	1383	1423	1597	1789
Retail trade	6129	8179	10102	10384
General merchandise stores	1275	2453	2584	2488
Food stores	2258	2877	3065	3720
Apparel and accessory stores	869	852	1054	1438
Other	1728	1997	3397	2737
Finance, except banking	6353	7344	7454	4268
Insurance	2323	3028	3516	4261
Real estate	718	801	899	1156
Services	4917	7347	8778	10995
Hotels & other lodging places	628	846	1088	1396
Business services	2362	4092	4668	5211
Computer & data proc. serv.	443	1054	973	1280
Other business services	1919	3038	3695	3931
Motion pictures	384	429	648	1333
Engineering & arch. services	535	623	836	906
Account., resch. & mgmt. serv.	431	315	437	350
Health services	324	371	394	768
Other services	254	671	707	1032
Other industries	4787	6334	9643	11819
Agriculture, forestry, & fish.	193	216	367	327
Mining	907	963	1407	1549
Coal	529	460	269	232
Other	378	503	1138	1317
Construction	1396	1583	2176	2324
Transportation	1826	3026	4949	6706
Communication & pub. utilities	464	545	745	912

Table 54.--Total Compensation Paid by Affiliates, by Industry of Affiliate, 1980-86

[Millions of dollars]

	1980	1981	1982	1983	1984	1985	1986
All industries	40047	54798	61487	66807	73155	79933	86492
Mining	704	1347	1573	1146	1314	1380	1178
Petroleum	2773	3816	4304	4552	4916	5090	5038
Manufacturing	22835	32577	34485	37824	41578	44880	46276
Food and kindred products	1952	2419	2561	2925	3253	3635	3874
Chemicals and allied products ..	6023	11646	12199	12725	13499	14042	13561
Industrial chemicals	2912	8156	8713	8918	9236	9283	9240
Drugs	737	843	1013	1336	1497	1621	2470
Soap, cleaners, & toiletries .	768	836	900	864	991	1098	1511
Agricultural chemicals	(D)	(D)	(D)	(D)	(D)	(D)	91
Other	(D)	(D)	(D)	(D)	(D)	(D)	248
Primary and fabricated metals ..	2607	2919	2967	4667	5290	5941	5937
Primary metal industries	1869	2115	2070	2639	3351	3853	3281
Fabricated metal products	738	804	897	2027	1939	2088	2656
Machinery	5964	7285	7815	8062	9012	9422	10377
Machinery, except electrical .	2691	3553	3990	3717	3869	3676	3062
Electric & electronic equip. .	3273	3732	3825	4346	5143	5747	7315
Other manufacturing	6289	8308	8944	9445	10524	11839	12528
Textile products and apparel .	381	655	625	619	647	745	676
Lumber and furniture	129	102	106	221	286	258	377
Paper and allied products	836	1629	1707	1617	1550	1550	1299
Printing and publishing	814	953	1059	1341	1774	2078	2522
Rubber and plastics products .	415	534	544	629	523	543	701
Stone, clay & glass products .	1062	1093	1427	1734	2098	2550	2874
Transportation equipment	1838	2243	2358	2139	2404	2554	2368
Instruments & related prods. .	433	574	566	555	615	758	1208
Other	382	526	551	589	628	803	503
Wholesale trade	4610	5806	7368	7771	8146	9058	10059
Motor vehicles and equipment ...	986	1244	1440	1602	1949	2418	2512
Metals and minerals	792	1112	1426	1147	634	725	826
Other durable goods	1763	2110	2851	3266	3560	3999	4397
Farm product raw materials	523	621	756	721	755	558	571
Other nondurable goods	545	719	895	1035	1248	1357	1754
Retail trade	3747	4345	5383	5584	5912	6320	7533
Food stre.,eat. & drink.places .	2449	2794	2858	2764	2838	3087	2719
Retail trade, nec	1298	1551	2525	2820	3074	3233	4814
Finance, except banking	844	688	1161	2064	2501	3335	5396
Insurance	1155	1309	1583	1622	1572	1842	2025
Real estate	371	570	483	515	576	707	793
Other industries	3009	4343	5148	5730	6640	7322	8193
Agriculture	136	154	175	180	140	151	181
Forestry and fishing	1	3	3	3	4	4	5
Construction	943	1521	1551	1268	1284	1339	1632
Transportation	726	920	1281	1520	1638	1475	1857
Communication & pub. utilities .	39	44	122	169	201	256	386
Services	1163	1700	2015	2590	3374	4097	4132

Table 55.--Total Compensation Paid by Affiliates, by Industry of Affiliate, 1987-90

[Millions of dollars]

	1987	1988	1989	1990
All industries	96009	119588	144158	161323
Petroleum	4800	5970	5674	6483
Petroleum & coal prods. manuf.	3786	4257	4543	4481
Other	1014	1712	1131	2003
Manufacturing	50758	62373	76448	87142
Food and kindred products	3889	5075	6590	7112
Beverages	1009	1446	1027	1075
Other	2880	3629	5564	6037
Chemicals and allied products	15133	16588	18922	23766
Industrial chemicals	10241	10792	12139	14968
Drugs	2709	3271	4069	5420
Soap, cleaners, & toiletries	1517	1670	2296	2496
Other	667	856	418	882
Primary and fabricated metals	5752	7504	11529	11576
Primary metal industries	3280	3479	4725	6255
Ferrous	1644	1658	2107	3631
Nonferrous	1636	1821	2618	2624
Fabricated metal products	2472	4025	6804	5321
Machinery	10546	15024	18261	20575
Machinery, except electrical	3988	6066	8891	8617
Computer & office equip.	1588	1797	2173	2867
Other	2399	4269	6718	5750
Electric & electronic equip.	6558	8958	9371	11958
Audio, video, & comm.	2971	3619	3685	4127
Electronic components	1136	1558	2000	2215
Other	2451	3781	3685	5616
Other manufacturing	15437	18182	21146	24113
Textile products and apparel	847	1090	1368	1463
Lumber and furniture	301	368	348	571
Paper and allied products	1494	1677	1802	1930
Printing and publishing	2366	2837	3350	4345
Newspapers	367	426	455	(D)
Other	1999	2411	2895	(D)
Rubber products	943	1975	2207	2980
Misc. plastics products	524	682	851	965
Stone, clay, & glass products	3413	3458	4183	4671
Transportation equipment	1883	1989	2510	3195
Motor vehicles & equipment	1173	1197	1615	2055
Other	710	792	894	1141
Instruments and related prods.	2044	2079	2440	2528
Other	1622	2028	2086	1465
Wholesale trade	10927	12472	14271	16298
Motor vehicles and equipment	2825	2833	3019	3663
Professional & commer. equip.	1206	1351	1818	1745
Metals and minerals	991	1058	1123	1247
Electrical goods	1461	1899	2413	2787
Machinery & equipment	1015	1446	1578	1616
Other durable goods	745	1038	1104	1377
Groceries and related products	563	648	793	1160
Farm product raw materials	461	494	531	582
Other nondurable goods	1661	1704	1892	2122
Retail trade	7212	9495	11805	12374
General merchandise stores	1441	2777	2948	2917
Food stores	2735	3402	3706	4620
Apparel and accessory stores	1005	983	1229	1654
Other	2030	2332	3922	3182
Finance, except banking	6907	8175	8284	4821
Insurance	2762	3613	4196	5080
Real estate	831	939	1050	1351
Services	5829	8612	10415	13197
Hotels & other lodging places	813	1091	1414	1815
Business services	2810	4686	5446	6083
Computer & data proc. serv.	516	1180	1142	1533
Other business services	2294	3505	4304	4551
Motion pictures	410	491	733	1690
Engineering & arch. services	619	712	951	1064
Account., resch. & mgmt. serv.	498	367	528	416
Health services	379	444	469	893
Other services	300	822	874	1237
Other industries	5983	7939	12014	14577
Agriculture, forestry, & fish.	224	249	428	378
Mining	1208	1209	1788	1990
Coal	698	580	348	313
Other	510	629	1441	1678
Construction	1758	1994	2725	2905
Transportation	2232	3837	6181	8232
Communication & pub. utilities	561	650	891	1071

Table 56.--Research and Development Expenditures by Affiliates, by Industry of Affiliate, 1980-86

[Millions of dollars]

	1980	1981	1982	1983	1984	1985	1986
All industries	1946	3110	3744	4164	4738	5240	5804
Mining	9	15	27	11	9	30	11
Petroleum	(D)	253	255	310	366	388	380
Manufacturing	1605	2645	3133	3553	4058	4478	5011
Food and kindred products	19	32	39	44	43	51	54
Chemicals and allied products	834	1580	1870	2037	2349	2627	2782
Industrial chemicals	454	1085	1329	1397	1620	1836	1657
Drugs	234	316	371	459	529	563	958
Soap, cleaners, & toiletries	72	77	84	81	94	106	135
Agricultural chemicals	(D)	(D)	(D)	(D)	(D)	(D)	15
Other	(D)	(D)	(D)	(D)	(D)	(D)	17
Primary and fabricated metals	45	71	79	141	121	166	174
Primary metal industries	24	51	51	59	66	102	97
Fabricated metal products	21	20	28	82	54	64	76
Machinery	507	670	802	962	1154	1320	1652
Machinery, except electrical	189	284	297	350	355	342	286
Electric & electronic equip.	318	385	505	613	799	977	1366
Other manufacturing	200	293	343	368	391	314	349
Textile products and apparel	4	5	5	7	7	8	8
Lumber and furniture	(*)	(*)	(*)	(*)	2	2	3
Paper and allied products	8	41	40	37	39	18	10
Printing and publishing	(D)	13	16	29	24	25	(D)
Rubber and plastics products	14	16	19	52	19	15	14
Stone, clay & glass products	10	12	19	53	58	66	29
Transportation equipment	101	136	150	92	95	83	124
Instruments & related prods.	32	52	47	42	42	58	112
Other	(D)	16	46	57	105	38	(D)
Wholesale trade	88	118	233	192	197	234	270
Motor vehicles and equipment	(D)	26	67	65	53	65	62
Metals and minerals	(D)	(D)	45	14	9	6	6
Other durable goods	17	23	67	82	103	130	155
Farm product raw materials	3	(D)	11	12	13	6	9
Other nondurable goods	26	34	44	18	19	27	38
Retail trade	(D)	21	28	27	28	36	33
Food strs.,eat. & drink.places	1	1	(*)	1	1	1	1
Retail trade, nec	(D)	20	27	27	27	35	33
Finance, except banking	(*)	1	2	2	1	2	2
Insurance	0	0	1	2	2	0	(*)
Real estate	(*)	(*)	1	1	1	1	2
Other industries	50	57	64	66	76	72	95
Agriculture	10	10	19	13	(D)	(D)	(D)
Forestry and fishing	0	0	0	0	0	(*)	0
Construction	3	4	4	3	(D)	(D)	(D)
Transportation	(*)	(*)	(*)	(*)	0	0	(*)
Communication & pub. utilities	1	(*)	(*)	(*)	(*)	(*)	1
Services	37	43	41	51	60	54	77

Table 57.--Research and Development Expenditures by Affiliates, by Industry of Affiliate, 1987-90
[Millions of dollars]

	1987	1988	1989	1990
All industries	6521	7834	9465	11324
Petroleum	311	364	387	520
Petroleum & coal prods. manuf.	(D)	(D)	330	388
Other	(D)	(D)	58	132
Manufacturing	5573	6903	8398	9737
Food and kindred products	58	106	187	204
Beverages	18	19	15	18
Other	39	87	172	186
Chemicals and allied products	3220	3719	4371	5183
Industrial chemicals	1899	2126	2284	2521
Drugs	1091	1318	1835	2375
Soap, cleaners, & toiletries	148	183	203	217
Other	82	93	49	71
Primary and fabricated metals	158	208	364	327
Primary metal industries	91	102	155	164
Ferrous	16	18	25	48
Nonferrous	75	84	130	116
Fabricated metal products	67	106	209	163
Machinery	1581	2080	2441	2978
Machinery, except electrical	476	692	1070	1138
Computer & office equip.	370	497	622	748
Other	106	194	448	390
Electric & electronic equip.	1105	1389	1371	1839
Audio, video, & comm.	557	781	734	1010
Electronic components	384	340	372	428
Other	165	268	264	401
Other manufacturing	556	790	1036	1045
Textile products and apparel	13	18	18	27
Lumber and furniture	2	3	2	5
Paper and allied products	22	24	29	28
Printing and publishing	19	29	28	33
Newspapers	(*)	(*)	(*)	(*)
Other	19	29	28	33
Rubber products	50	98	117	154
Misc. plastics products	10	21	34	36
Stone, clay, & glass products	39	74	71	124
Transportation equipment	76	225	265	190
Motor vehicles & equipment	41	(D)	73	69
Other	35	(D)	192	120
Instruments and related prods.	279	242	366	371
Other	46	55	106	77
Wholesale trade	357	457	467	801
Motor vehicles and equipment	91	72	75	283
Professional & commer. equip.	62	92	157	207
Metals and minerals	10	16	15	26
Electrical goods	77	122	78	107
Machinery & equipment	23	52	34	45
Other durable goods	19	33	11	25
Groceries and related products	(*)	1	2	2
Farm product raw materials	2	3	2	2
Other nondurable goods	72	66	92	104
Retail trade	3	2	3	3
General merchandise stores	(*)	(*)	0	0
Food stores	0	(*)	(*)	0
Apparel and accessory stores	(*)	(*)	1	1
Other	2	2	2	2
Finance, except banking	5	0	1	4
Insurance	(*)	0	0	0
Real estate	2	(*)	(*)	4
Services	243	69	145	183
Hotels & other lodging places	0	0	0	0
Business services	55	43	74	99
Computer & data proc. serv.	51	36	69	91
Other business services	4	7	5	8
Motion pictures	(*)	2	4	4
Engineering & arch. services	(D)	3	56	42
Account., resch. & mgmt. serv.	(D)	21	11	36
Health services	0	0	0	0
Other services	(*)	1	1	(*)
Other industries	28	39	64	72
Agriculture, forestry, & fish.	(D)	28	41	45
Mining	9	9	20	25
Coal	1	(*)	(*)	0
Other	8	9	20	25
Construction	(D)	1	2	2
Transportation	1	(*)	(*)	(*)
Communication & pub. utilities	1	0	(*)	(*)

Table 58.--Net Income of Affiliates, by Industry of Affiliate, 1980-86

[Millions of dollars]

	1980	1981	1982	1983	1984	1985	1986
All industries	8759	11234	3830	5584	9605	5398	2458
Mining	392	549	-254	-108	-354	-729	-273
Petroleum	4371	4356	3471	2348	3096	1760	-1162
Manufacturing	1024	4069	5	1566	4047	1063	226
Food and kindred products	216	1532	460	435	555	398	365
Chemicals and allied products	302	1880	1094	1799	2443	1685	1849
Industrial chemicals	-88	1295	713	1385	2094	1450	1556
Drugs	-109	19	-73	90	17	46	149
Soap, cleaners, & toiletries	109	136	150	180	198	155	122
Agricultural chemicals	358	(D)	(D)	131	150	64	5
Other	31	(D)	(D)	13	-17	-30	17
Primary and fabricated metals	349	282	-277	-135	-247	-649	-271
Primary metal industries	251	211	-336	-132	-193	-549	-68
Fabricated metal products	98	71	59	-2	-54	-100	-202
Machinery	150	240	-658	-273	674	-770	-2758
Machinery, except electrical	-66	-73	-721	-334	288	-80	-397
Electric & electronic equip.	216	313	62	61	386	-689	-2362
Other manufacturing	6	135	-612	-261	623	400	1041
Textile products and apparel	6	-3	72	17	64	43	73
Lumber and furniture	9	-3	-30	-5	-18	-6	9
Paper and allied products	157	266	96	155	260	108	155
Printing and publishing	79	43	91	159	105	206	289
Rubber and plastics products	-26	-4	-10	2	54	4	42
Stone, clay & glass products	48	-76	-325	-185	85	199	455
Transportation equipment	-250	-102	-360	-392	-26	-362	-144
Instruments & related prods.	-42	-46	-116	-100	74	128	140
Other	24	59	-30	87	26	80	23
Wholesale trade	1205	951	302	930	1822	1663	689
Motor vehicles and equipment	241	503	408	899	1500	1954	1116
Metals and minerals	631	285	394	77	-38	-47	71
Other durable goods	108	17	-376	-181	290	-260	-406
Farm product raw materials	161	98	-8	-10	-30	-190	-37
Other nondurable goods	63	47	-116	145	101	207	-55
Retail trade	276	310	402	289	604	456	283
Food stres.,eat. & drink.places	76	17	139	-12	206	341	20
Retail trade, nec	200	292	264	301	398	115	263
Finance, except banking	379	306	332	658	615	1377	1710
Insurance	995	740	600	726	-22	915	2397
Real estate	56	65	-547	-126	446	207	-644
Other industries	60	-111	-482	-697	-652	-1315	-768
Agriculture	-23	-76	-112	-147	-92	-110	-118
Forestry and fishing	5	-2	1	(*)	-1	-2	-2
Construction	-16	-27	-44	13	-65	-135	-112
Transportation	58	36	-82	-55	-6	17	-68
Communication & pub. utilities	-17	-19	-40	-73	-94	-174	-219
Services	53	-23	-205	-434	-394	-910	-249

Table 59.--Net Income of Affiliates, by Industry of Affiliate, 1987-90

[Millions of dollars]

	1987	1988	1989	1990
All industries	7820	12049	9286	-4891
Petroleum	1595	1947	2722	2725
Petroleum & coal prods. manuf. .	1880	2164	2452	2484
Other	-285	-217	270	241
Manufacturing	4985	7542	5698	363
Food and kindred products	353	831	444	126
Beverages	276	746	289	355
Other	77	85	154	-229
Chemicals and allied products ..	3145	4368	4894	4787
Industrial chemicals	2765	3227	3349	2877
Drugs	138	706	1166	1724
Soap, cleaners, & toiletries .	224	329	296	171
Other	18	106	83	16
Primary and fabricated metals ..	182	1088	791	594
Primary metal industries	526	719	557	318
Ferrous	173	251	169	74
Nonferrous	353	468	388	244
Fabricated metal products	-344	369	234	275
Machinery	-328	-181	-394	-3421
Machinery, except electrical .	-12	379	297	-1366
Computer & office equip. ...	-6	107	-166	-1000
Other	-6	272	462	-366
Electric & electronic equip. .	-315	-560	-691	-2055
Audio, video, & comm.	97	-215	-182	-683
Electronic components	-209	-104	-182	-622
Other	-203	-241	-327	-750
Other manufacturing	1632	1436	-36	-1723
Textile products and apparel .	161	57	-42	-179
Lumber and furniture	20	111	73	51
Paper and allied products	321	529	203	142
Printing and publishing	-363	-124	-352	-347
Newspapers	-11	-28	-8	(D)
Other	-352	-97	-344	(D)
Rubber products	18	30	-56	-645
Misc. plastics products	126	232	19	12
Stone, clay, & glass products	725	445	173	-663
Transportation equipment	111	-547	-708	-778
Motor vehicles & equipment .	-9	-371	-730	-627
Other	120	-176	22	-151
Instruments and related prods.	10	169	80	-93
Other	504	533	574	777
Wholesale trade	361	1456	728	-1176
Motor vehicles and equipment ...	642	886	294	-196
Professional & commer. equip. ..	-70	-14	-27	118
Metals and minerals	23	118	172	-18
Electrical goods	-173	124	1	-321
Machinery & equipment	-231	-112	-48	-483
Other durable goods	-40	70	140	-40
Groceries and related products .	113	12	-141	-370
Farm product raw materials	52	-6	138	-41
Other nondurable goods	45	376	197	176
Retail trade	89	257	-1371	-972
General merchandise stores	-132	-83	-1681	-913
Food stores	285	310	227	358
Apparel and accessory stores ...	-67	-76	(*)	-435
Other	2	106	83	18
Finance, except banking	676	419	1289	-1473
Insurance	1862	1851	2203	1694
Real estate	-636	-829	-353	-2168
Services	-1026	-744	-1193	-2097
Hotels & other lodging places ..	-237	-155	-347	-847
Business services	-98	-113	-245	-642
Computer & data proc. serv. ..	-6	86	13	-130
Other business services	-93	-200	-257	-511
Motion pictures	-159	-237	-346	-496
Engineering & arch. services ...	-497	-215	-242	-39
Account., resch. & mgmt. serv. .	-29	-38	-66	-35
Health services	17	20	25	32
Other services	-24	-7	28	-71
Other industries	-84	149	-436	-1788
Agriculture, forestry, & fish. .	-95	-75	-24	24
Mining	344	561	46	673
Coal	-33	199	20	-116
Other	377	362	26	788
Construction	-157	-155	-70	-59
Transportation	-14	-17	-17	-2927
Communication & pub. utilities .	-163	-164	-371	502

Table 60.--Income Taxes Provided for by Affiliates, by Industry of Affiliate, 1980-86

[Millions of dollars]

	1980	1981	1982	1983	1984	1985	1986
All industries	7066	8295	5358	6600	8670	7999	7434
Mining	68	191	-92	12	48	8	70
Petroleum	3630	3745	2888	2589	2748	1827	-99
Manufacturing ,..................	1470	2367	927	1633	2603	1881	3129
Food and kindred products	196	350	252	324	286	134	240
Chemicals and allied products ..	330	846	197	583	1046	776	1423
Industrial chemicals	35	563	58	418	807	578	1009
Drugs	46	15	-62	9	51	96	262
Soap, cleaners, & toiletries .	96	111	134	171	157	120	131
Agricultural chemicals	130	126	60	-24	25	-27	3
Other	23	31	7	9	6	9	18
Primary and fabricated metals ..	284	223	55	37	88	29	43
Primary metal industries	212	163	9	-1	105	86	57
Fabricated metal products	72	60	45	38	-17	-57	-14
Machinery	378	502	147	209	483	336	413
Machinery, except electrical .	88	156	6	98	185	180	159
Electric & electronic equip. .	291	346	141	111	298	156	254
Other manufacturing	282	446	276	480	701	606	1011
Textile products and apparel .	29	35	27	33	50	50	53
Lumber and furniture	7	2	4	10	10	7	27
Paper and allied products	75	121	148	137	195	16	107
Printing and publishing	145	123	125	108	188	218	246
Rubber and plastics products .	-3	18	21	38	37	25	43
Stone, clay & glass products .	25	-45	--	79	110	144	299
Transportation equipment	-32	109	-10	-13	49	24	112
Instruments & related prods. .	7	48	19	22	37	45	68
Other	29	35	24	66	25	76	56
Wholesale trade	981	1058	1077	1287	1955	2364	1700
Motor vehicles and equipment ...	415	597	747	786	1346	1674	1043
Metals and minerals	131	25	161	152	54	27	73
Other durable goods	243	313	166	260	480	459	278
Farm product raw materials	92	21	-3	-35	-53	24	21
Other nondurable goods	101	102	6	123	129	179	285
Retail trade	283	255	271	390	502	493	849
Food strs.,eat. & drink.places .	53	13	-4	44	90	101	156
Retail trade, nec	230	242	275	346	412	392	692
Finance, except banking	142	120	187	368	429	1034	1137
Insurance	213	133	-89	-51	-149	80	334
Real estate	71	103	79	193	313	137	76
Other industries	207	324	110	180	221	176	238
Agriculture	22	(*)	-7	-1	12	9	23
Forestry and fishing	2	2	2	2	(*)	(*)	(*)
Construction	65	209	42	45	-41	3	-10
Transportation	41	45	21	20	46	17	1
Communication & pub. utilities .	3	3	23	15	35	21	44
Services	75	65	28	99	169	126	180

Table 61.—Income Taxes Provided for by Affiliates, by Industry of Affiliate, 1987-90

[Millions of dollars]

	1987	1988	1989	1990
All industries	9793	10625	9958	10258
Petroleum	1724	1344	1455	1599
Petroleum & coal prods. manuf.	1396	1147	1154	1133
Other	328	197	301	466
Manufacturing	4716	5232	4851	5278
Food and kindred products	168	431	153	266
Beverages	-2	280	-64	-7
Other	169	151	217	273
Chemicals and allied products	2394	2144	2255	2558
Industrial chemicals	1528	1314	1286	1565
Drugs	608	496	670	734
Soap, cleaners, & toiletries	229	279	271	225
Other	30	55	27	33
Primary and fabricated metals	198	456	427	503
Primary metal industries	206	331	243	198
Ferrous	42	137	118	89
Nonferrous	164	194	124	109
Fabricated metal products	-8	125	185	305
Machinery	470	659	682	502
Machinery, except electrical	202	411	462	306
Computer & office equip.	94	114	69	104
Other	109	297	393	202
Electric & electronic equip.	268	247	220	196
Audio, video, & comm.	99	3	114	107
Electronic components	34	63	45	13
Other	135	182	60	76
Other manufacturing	1486	1543	1334	1450
Textile products and apparel	81	87	99	70
Lumber and furniture	(D)	69	39	58
Paper and allied products	195	270	145	157
Printing and publishing	254	229	68	90
Newspapers	68	(D)	19	(D)
Other	187	(D)	49	(D)
Rubber products	18	58	64	56
Misc. plastics products	31	85	36	24
Stone, clay, & glass products	264	221	189	34
Transportation equipment	109	-4	91	141
Motor vehicles & equipment	41	-40	8	110
Other	68	36	83	31
Instruments and related prods.	101	112	125	162
Other	(D)	416	478	657
Wholesale trade	1391	1410	1533	1348
Motor vehicles and equipment	624	365	352	386
Professional & commer. equip.	58	124	193	114
Metals and minerals	106	101	107	101
Electrical goods	135	225	267	233
Machinery & equipment	48	87	112	108
Other durable goods	48	122	146	148
Groceries and related products	63	59	29	54
Farm product raw materials	30	57	56	24
Other nondurable goods	279	271	270	180
Retail trade	271	508	549	274
General merchandise stores	4	163	100	(D)
Food stores	171	205	235	388
Apparel and accessory stores	45	43	56	(D)
Other	51	97	158	134
Finance, except banking	744	433	431	73
Insurance	476	491	328	652
Real estate	-25	230	233	178
Services	239	420	486	248
Hotels & other lodging places	34	55	39	14
Business services	76	131	234	137
Computer & data proc. serv.	38	36	30	44
Other business services	38	96	203	93
Motion pictures	(D)	16	97	35
Engineering & arch. services	17	47	24	42
Account., resch. & mgmt. serv.	19	29	30	18
Health services	14	14	15	17
Other services	(D)	127	46	-16
Other industries	256	558	93	607
Agriculture, forestry, & fish.	26	45	29	57
Mining	104	120	212	406
Coal	33	56	27	14
Other	70	65	185	392
Construction	6	46	57	67
Transportation	64	289	-263	-76
Communication & pub. utilities	57	58	57	153

Table 62.--U.S. Merchandise Exports by Affiliates, by Industry of Affiliate, 1980-86

[Millions of dollars]

	1980	1981	1982	1983	1984	1985	1986
All industries	52199	64066	60236	53854	58186	56401	49560
Mining	810	953	1096	890	796	883	924
Petroleum	997	1894	1531	1436	1313	1577	1164
Manufacturing	9048	13590	12883	12045	13078	12849	12805
Food and kindred products	617	724	597	545	463	376	504
Chemicals and allied products ..	2133	5105	4722	4610	5240	5210	5390
Industrial chemicals	1408	4222	3923	3764	4226	4056	4392
Drugs	210	298	277	336	348	463	650
Soap, cleaners, & toiletries .	193	189	225	150	190	144	212
Agricultural chemicals	(D)	275	247	314	426	477	83
Other	(D)	121	50	46	50	69	53
Primary and fabricated metals ..	1059	1171	1153	1332	1304	1501	1443
Primary metal industries	854	935	884	1160	957	1247	916
Fabricated metal products	205	236	269	172	347	254	527
Machinery	2995	3734	3460	3258	3534	3216	3184
Machinery, except electrical .	1553	2187	1905	1702	1554	1458	1007
Electric & electronic equip. .	1441	1547	1554	1557	1981	1758	2178
Other manufacturing	2245	2856	2951	2299	2536	2547	2283
Textile products and apparel .	60	84	75	75	69	64	63
Lumber and furniture	132	95	80	126	140	159	153
Paper and allied products	383	672	609	509	357	255	224
Printing and publishing	79	83	89	83	99	193	115
Rubber and plastics products .	57	81	76	60	73	69	88
Stone, clay & glass products .	61	112	195	175	230	223	141
Transportation equipment	1162	1323	1441	967	1149	1172	983
Instruments & related prods. .	151	242	243	201	230	248	362
Other	159	164	141	103	189	164	156
Wholesale trade	40713	46487	43336	38454	40539	38257	33727
Motor vehicles and equipment ...	2532	3333	3253	2986	3255	3298	3142
Metals and minerals	15097	15968	13272	11503	10778	10725	10630
Other durable goods	2673	2879	2368	1911	1876	2227	1927
Farm product raw materials	19246	23017	23044	20265	22888	20244	16006
Other nondurable goods	1164	1290	1399	1789	1742	1763	2021
Retail trade	450	541	667	405	442	337	374
Food strs.,eat. & drink.places .	14	15	12	15	13	10	11
Retail trade, nec	437	526	655	390	429	327	363
Finance, except banking	(D)	151	124	138	(D)	(D)	233
Insurance	0	3	8	(D)	(D)	0	0
Real estate	(*)	(*)	(*)	(D)	(D)	(D)	4
Other industries	(D)	446	590	475	(D)	(D)	330
Agriculture	49	60	49	50	53	73	74
Forestry and fishing	(D)	4	(D)	15	4	5	5
Construction	43	315	406	160	64	(D)	77
Transportation	2	4	(D)	(D)	(D)	5	7
Communication & pub. utilities .	1	3	1	(D)	(D)	0	1
Services	35	59	58	242	169	180	167

Table 63.--U.S. Merchandise Exports by Affiliates, by Industry of Affiliate, 1987-90

[Millions of dollars]

	1987	1988	1989	1990
All industries	48091	69541	86316	91137
Petroleum	1186	1686	2014	2916
Petroleum & coal prods. manuf.	750	883	1115	1334
Other	436	803	898	1582
Manufacturing	15487	25192	31873	32729
Food and kindred products	518	1530	1402	1611
Beverages	53	585	118	151
Other	466	945	1284	1460
Chemicals and allied products	6849	8688	9556	11322
Industrial chemicals	5654	7276	8052	9430
Drugs	750	763	956	971
Soap, cleaners, & toiletries	170	256	287	288
Other	275	392	261	634
Primary and fabricated metals	1509	1896	3528	2632
Primary metal industries	1085	1104	1677	1679
Ferrous	104	169	263	319
Nonferrous	980	935	1414	1360
Fabricated metal products	424	792	1851	952
Machinery	3439	8558	11409	9922
Machinery, except electrical	1391	2433	4844	4887
Computer & office equip.	560	828	1353	1549
Other	831	1605	3491	3337
Electric & electronic equip.	2048	6125	6564	5035
Audio, video, & comm.	737	3848	4064	1475
Electronic components	498	1005	1082	1353
Other	813	1272	1419	2207
Other manufacturing	3173	4520	5978	7242
Textile products and apparel	90	197	305	285
Lumber and furniture	197	220	312	386
Paper and allied products	410	563	681	706
Printing and publishing	117	209	232	568
Newspapers	(D)	0	0	0
Other	(D)	209	232	568
Rubber products	175	442	403	749
Misc. plastics products	110	164	201	203
Stone, clay, & glass products	185	375	517	615
Transportation equipment	620	724	1198	1239
Motor vehicles & equipment	356	475	498	490
Other	264	248	700	749
Instruments and related prods.	680	878	1188	1301
Other	590	749	941	1190
Wholesale trade	29165	40035	49096	52072
Motor vehicles and equipment	3111	4146	4847	4887
Professional & commer. equip.	196	506	758	762
Metals and minerals	11007	9695	10756	12086
Electrical goods	833	824	1797	1708
Machinery & equipment	1058	6084	7698	10320
Other durable goods	589	833	1290	1453
Groceries and related products	1418	1519	1570	1562
Farm product raw materials	9753	14452	18138	16626
Other nondurable goods	1200	1978	2243	2668
Retail trade	948	1184	1447	1183
General merchandise stores	21	24	11	12
Food stores	8	1	(D)	1
Apparel and accessory stores	10	12	(D)	4
Other	909	1148	1207	1166
Finance, except banking	1	(D)	6	6
Insurance	0	(D)	0	0
Real estate	0	(*)	3	7
Services	228	230	301	523
Hotels & other lodging places	1	1	1	1
Business services	35	49	70	148
Computer & data proc. serv.	18	28	54	93
Other business services	18	21	15	55
Motion pictures	4	14	41	83
Engineering & arch. services	125	85	179	260
Account., resch. & mgmt. serv.	50	(D)	3	(D)
Health services	0	0	0	0
Other services	14	(D)	8	(D)
Other industries	1075	1182	1577	1701
Agriculture, forestry, & fish.	63	130	210	288
Mining	932	1030	1183	1230
Coal	440	430	206	247
Other	492	600	977	983
Construction	79	21	165	165
Transportation	0	0	15	12
Communication & pub. utilities	1	1	4	5

Table 64.--U.S. Merchandise Exports by Affiliates, Industry of Affiliate by Country of UBO, 1990

[Millions of dollars]

	All countries	Canada	Europe							Latin America and Other Western Hemisphere	Africa	Middle East	Asia and Pacific			United States
			Total	Of which—									Total	Of which—		
				France	Germany, Federal Republic of	Netherlands	Switzerland	United Kingdom						Australia	Japan	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		(9)	(10)	(11)	(12)	(13)	(14)	(15)
All industries	91137	6207	37825	11213	7041	2829	4253	7926		2504	534	276	43566	507	39155	224
Petroleum	2916	(D)	2117	(D)	(D)	(D)	(D)	(D)		532	0	(D)	139	(D)	92	2
Petroleum & coal prods. manuf.	1334	0	1249	3	9	(D)	(D)	(D)		(D)	0	0	(D)	(D)	0	0
Other	1582	(D)	869	(D)	(D)	1	(D)	0		(D)	0	(D)	(D)	0	92	2
Manufacturing	32729	5341	19779	2464	5895	1417	1958	5620		447	(D)	(D)	6592	344	5319	40
Food and kindred products	1611	150	915	101	6	48	(D)	581		1	5	0	540	39	489	0
Beverages	151	(D)	21	(D)	1	0	0	1		(*)	0	0	(D)	(D)	(D)	0
Other	1460	(D)	894	(D)	5	48	(D)	580		1	5	0	(D)	(D)	(D)	0
Chemicals and allied products	11322	(D)	6674	393	3511	(D)	611	1195		(D)	0	1	(D)	(*)	674	(*)
Industrial chemicals	9430	(D)	5140	262	3106	(D)	14	1131		(*)	0	0	(D)	0	403	(*)
Drugs	971	0	757	(D)	17	0	588	(D)		(D)	0	(*)	(D)	0	(D)	0
Soap, cleaners, & toiletries	288	4	239	2	(D)	(D)	7	(D)		0	0	(*)	44	0	(D)	0
Other	634	0	538	(D)	(D)	(D)	3	35		5	0	0	91	(*)	91	(*)
Primary and fabricated metals	2632	(D)	1196	303	331	40	(D)	282		(D)	(D)	0	(D)	(D)	281	0
Primary metal industries	1679	(D)	412	(D)	(D)	0	(D)	96		(*)	(D)	0	(D)	(D)	263	0
Ferrous	319	(D)	133	(D)	(D)	0	1	8		(*)	0	0	(D)	(D)	129	0
Nonferrous	1360	(D)	280	76	37	0	(D)	88		0	(D)	0	279	(D)	135	0
Fabricated metal products	952	(D)	783	(D)	(D)	40	(D)	185		(D)	0	0	(D)	(D)	17	0
Machinery	9922	528	5907	569	1355	(D)	859	1202		131	(D)	55	3269	(D)	2440	(D)
Machinery, except electrical	4887	77	2418	366	(D)	34	(D)	734		127	(D)	(D)	2203	(D)	1675	(D)
Computer & office equip.	1549	(D)	565	(D)	(D)	3	(D)	171		(D)	0	31	840	0	749	0
Other	3337	(D)	1853	(D)	349	31	231	563		(D)	(D)	(D)	1363	(D)	926	(D)
Electric & electronic equip.	5035	451	3489	203	(D)	(D)	(D)	468		4	(D)	(D)	1067	(D)	766	(D)
Audio, video, & comm.	1475	(D)	1043	(D)	(D)	(D)	4	(D)		0	0	(D)	(D)	1	15	1
Electronic components	1353	(D)	622	(D)	435	(D)	1	(D)		4	(D)	0	(D)	2	478	1
Other	2207	(D)	1824	64	(D)	4	(D)	235		0	0	0	(D)	(D)	273	(D)
Other manufacturing	7242	360	5088	1100	693	43	305	2360		149	8	(D)	1590	(D)	1436	(D)
Textile products and apparel	285	(D)	190	(D)	28	1	(D)	66		1	0	0	(D)	0	(D)	2
Lumber and furniture	386	25	120	5	(D)	0	1	45		0	0	0	241	(D)	154	0
Paper and allied products	706	(D)	264	1	55	3	(D)	(D)		(*)	0	(D)	340	0	333	0
Printing and publishing	568	23	468	(D)	10	(D)	0	348		(D)	0	0	7	0	6	(D)
Newspapers	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Other	568	23	468	(D)	10	(D)	0	348		(D)	0	0	7	0	6	(D)
Rubber products	749	(D)	439	(D)	(D)	(D)	1	4		0	0	0	(D)	0	(D)	0
Misc. plastics products	203	(D)	104	19	29	1	1	34		(D)	0	0	40	(*)	40	0
Stone, clay, & glass products	615	14	442	184	73	(D)	(D)	(D)		30	0	0	129	(*)	129	0
Transportation equipment	1239	33	1049	349	107	2	4	435		3	0	(*)	154	0	127	0
Motor vehicles & equipment	490	(D)	338	(D)	87	0	4	22		0	0	0	(D)	0	127	0
Other	749	(D)	711	(D)	19	2	0	413		3	0	(*)	(D)	0	0	0
Instruments and related prods.	1301	24	1099	94	141	0	224	444		3	8	0	168	(*)	152	0
Other	1190	(D)	914	52	5	1	20	(D)		(D)	0	0	173	(D)	156	0
Wholesale trade	52072	534	14274	8463	861	576	1642	1081		520	(D)	(D)	36481	68	33473	182
Motor vehicles and equipment	4887	(D)	516	(D)	(D)	2	0	2		(D)	0	0	4327	1	4269	0
Professional & commer. equip.	762	1	193	(D)	27	(D)	(D)	89		3	0	7	558	0	530	(*)
Metals and minerals	12086	(D)	1100	79	210	(D)	(D)	544		108	(D)	0	10758	(*)	10133	0
Electrical goods	1708	(D)	144	40	(D)	24	(*)	3		(D)	0	(*)	1466	0	887	0
Machinery & equipment	10320	48	742	17	102	42	77	86		(D)	0	8	9365	41	9005	(D)
Other durable goods	1453	3	102	11	20	(D)	7	37		18	0	0	1330	0	1278	0
Groceries and related products	1562	30	140	(*)	(D)	4	(D)	98		76	(D)	(D)	1277	0	1260	0
Farm product raw materials	16626	(D)	10539	8044	31	269	(D)	0		(D)	0	0	5953	0	5526	0
Other nondurable goods	2668	250	798	21	168	29	1	223		(D)	0	0	1447	26	584	(D)
Retail trade	1183	20	113	(D)	1	1	49	(D)		(D)	0	(D)	121	0	115	(*)
General merchandise stores	12	0	3	2	0	0	0	0		0	0	0	9	0	9	0
Food stores	1	0	1	0	0	0	0	1		0	0	0	(*)	0	(*)	0
Apparel and accessory stores	4	(*)	3	0	(*)	0	0	2		0	0	0	1	0	1	0
Other	1166	20	106	(D)	1	1	49	(D)		(D)	0	(D)	111	0	105	(*)
Finance, except banking	6	(*)	5	(D)	0	0	0	0		0	(*)	0	(*)	0	(*)	0
Insurance	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Real estate	7	2	0	0	0	0	0	0		0	0	0	4	0	4	0
Services	523	(D)	343	(D)	(D)	4	(*)	88		(D)	0	(D)	83	(D)	(D)	(*)
Hotels & other lodging places	1	1	0	0	0	0	0	0		0	0	0	0	0	0	0
Business services	148	(D)	26	(D)	0	0	0	17		73	0	(D)	(D)	(D)	(*)	(*)
Computer & data proc. serv.	93	3	17	(D)	0	0	0	16		(D)	0	(D)	(*)	0	(*)	(*)
Other business services	55	(D)	9	0	0	0	0	1		(D)	0	0	(D)	(D)	0	0
Motion pictures	83	0	(D)	0	0	0	0	(D)		(D)	0	0	(D)	0	(D)	0
Engineering & arch. services	260	0	(D)	0	(D)	4	0	(D)		0	0	0	(D)	0	(D)	0
Account., resch. & mgmt. serv.	(D)	0	6	(*)	(*)	0	(*)	5		(D)	0	0	1	0	1	0
Health services	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Other services	(D)	0	(D)	(*)	0	0	0	4		0	0	0	(*)	(*)	(*)	0
Other industries	1701	293	1193	(D)	195	(D)	(D)	647		(*)	(D)	(D)	146	13	(D)	0
Agriculture, forestry, & fish.	288	(D)	113	0	5	4	(D)	(D)		0	0	(D)	121	0	(D)	0
Mining	1230	188	1008	2	(D)	(D)	0	605		0	(D)	0	(D)	(D)	0	0
Coal	247	(D)	(D)	0	(D)	2	0	0		0	0	0	0	0	0	0
Other	983	(D)	(D)	2	10	(D)	0	605		0	(D)	0	(D)	(D)	0	0
Construction	165	(D)	68	(D)	(D)	0	1	3		0	0	4	(D)	(D)	(*)	0
Transportation	12	0	1	0	0	0	0	1		0	0	0	12	0	(D)	0
Communication & pub. utilities	5	0	4	(*)	0	0	0	(D)		(*)	0	(*)	0	0	0	0

Table 65.--U.S. Merchandise Imports by Affiliates, by Industry of Affiliate, 1980-86

[Millions of dollars]

	1980	1981	1982	1983	1984	1985	1986
All industries	75803	82259	84290	81464	100489	113331	125732
Mining	28	71	137	93	174	215	274
Petroleum	10589	10040	8486	6958	6272	6416	6623
Manufacturing	10413	13226	12386	14021	18172	18635	20617
Food and kindred products	952	1460	1435	1526	1727	1449	1580
Chemicals and allied products ..	1744	3463	2759	2963	4304	4281	4387
Industrial chemicals	1138	2851	2094	2172	3086	3053	3026
Drugs	187	167	232	322	425	488	917
Soap, cleaners, & toiletries .	133	134	128	113	189	196	252
Agricultural chemicals	(D)	(D)	228	287	509	403	29
Other	(D)	(D)	77	69	94	142	163
Primary and fabricated metals ..	1873	1767	1452	1990	2684	3020	3644
Primary metal industries	1673	1519	1232	1744	2354	2643	2819
Fabricated metal products	200	248	220	246	330	377	825
Machinery	3474	3421	3160	4010	5205	5704	6481
Machinery, except electrical .	1461	1631	1441	1398	1787	1996	2121
Electric & electronic equip. .	2013	1789	1718	2612	3418	3709	4360
Other manufacturing	2370	3115	3580	3531	4251	4181	4524
Textile products and apparel .	81	116	95	113	141	192	211
Lumber and furniture	98	144	124	129	188	202	245
Paper and allied products	459	592	541	440	402	164	162
Printing and publishing	87	287	240	266	326	453	125
Rubber and plastics products .	126	192	181	233	253	248	245
Stone, clay & glass products .	115	104	110	139	225	349	484
Transportation equipment	929	1168	1702	1590	1948	1706	1966
Instruments & related prods. .	291	305	372	380	441	526	744
Other	184	206	215	241	326	341	342
Wholesale trade	54020	57908	61679	59048	72478	84568	94517
Motor vehicles and equipment ...	18068	20249	20912	22775	29311	33969	43637
Metals and minerals	15823	14671	17956	11737	12052	11777	12715
Other durable goods	10476	12188	12853	14179	19903	23275	24180
Farm product raw materials	4756	5508	5615	5137	5295	8932	5618
Other nondurable goods	4897	5292	4343	5220	5916	6615	8367
Retail trade	608	791	1030	915	1161	1386	1710
Food strs.,eat. & drink.places .	(D)	71	57	45	17	40	12
Retail trade, nec	(D)	719	973	869	1144	1346	1698
Finance, except banking	10	49	(D)	227	(D)	(D)	(D)
Insurance	(*)	1	1	1	(D)	(*)	(*)
Real estate	(*)	(*)	4	5	(D)	(D)	(D)
Other industries	136	173	(D)	198	(D)	(D)	(D)
Agriculture	11	(D)	3	11	4	21	15
Forestry and fishing	(*)	(*)	(*)	(D)	(D)	(D)	(D)
Construction	42	50	88	47	210	174	120
Transportation	(D)	13	12	6	7	6	14
Communication & pub. utilities .	(D)	(D)	(D)	(D)	(D)	(D)	29
Services	38	67	61	88	91	240	114

Table 66.--U.S. Merchandise Imports by Affiliates, by Industry of Affiliate, 1987-90

[Millions of dollars]

	1987	1988	1989	1990
All industries	143537	155533	171847	180674
Petroleum	8971	7936	14145	18842
Petroleum & coal prods. manuf.	5964	5764	8648	9703
Other	3006	2172	5497	9139
Manufacturing	24546	32762	40871	45107
Food and kindred products	1641	2112	2455	2400
Beverages	763	1290	675	588
Other	878	822	1780	1812
Chemicals and allied products	5200	6395	7580	8876
Industrial chemicals	3468	3933	5259	6084
Drugs	1150	1631	1841	2085
Soap, cleaners, & toiletries	195	344	294	343
Other	388	487	187	365
Primary and fabricated metals	3680	3943	5023	5020
Primary metal industries	2810	2889	3404	3860
Ferrous	570	672	740	1032
Nonferrous	2240	2217	2664	2827
Fabricated metal products	870	1054	1619	1161
Machinery	7634	11639	14368	16947
Machinery, except electrical	2876	3622	5957	7879
Computer & office equip.	846	979	1720	4450
Other	2030	2643	4237	3429
Electric & electronic equip.	4758	8017	8412	9068
Audio, video, & comm.	2208	4545	5056	4704
Electronic components	1091	1067	1545	2044
Other	1459	2406	1811	2320
Other manufacturing	6391	8673	11445	11864
Textile products and apparel	280	600	659	392
Lumber and furniture	228	243	163	163
Paper and allied products	385	641	699	803
Printing and publishing	117	209	166	195
Newspapers	1	1	1	1
Other	117	209	166	195
Rubber products	776	646	702	1046
Misc. plastics products	200	487	472	594
Stone, clay, & glass products	633	792	808	1035
Transportation equipment	2303	3248	6062	5820
Motor vehicles & equipment	1569	2415	5415	5315
Other	735	833	647	504
Instruments and related prods.	821	648	838	1034
Other	647	1159	875	779
Wholesale trade	107278	111481	114049	113439
Motor vehicles and equipment	50040	49455	46454	45733
Professional & commer. equip.	6581	8709	9779	7995
Metals and minerals	15382	12082	11679	12143
Electrical goods	15140	15105	17494	19192
Machinery & equipment	4770	9548	10912	10385
Other durable goods	3024	3884	4445	4499
Groceries and related products	3637	3719	3281	2922
Farm product raw materials	2533	2219	3496	3572
Other nondurable goods	6170	6759	6509	6998
Retail trade	2134	2271	1829	1937
General merchandise stores	271	431	415	348
Food stores	102	71	77	107
Apparel and accessory stores	439	421	457	517
Other	1322	1348	879	964
Finance, except banking	35	(*)	0	4
Insurance	(*)	0	0	0
Real estate	1	(*)	3	2
Services	130	512	225	389
Hotels & other lodging places	4	4	3	3
Business services	67	62	118	161
Computer & data proc. serv.	9	9	13	28
Other business services	58	53	105	133
Motion pictures	3	38	46	83
Engineering & arch. services	34	78	47	60
Account., resch. & mgmt. serv.	1	(D)	2	1
Health services	0	0	0	0
Other services	22	(D)	9	80
Other industries	442	571	724	953
Agriculture, forestry, & fish.	4	45	12	37
Mining	328	411	193	327
Coal	178	191	10	(D)
Other	150	220	183	(D)
Construction	71	74	361	(D)
Transportation	(D)	5	121	(D)
Communication & pub. utilities	(D)	37	38	30

Table 67.--U.S. Merchandise Imports by Affiliates, Industry of Affiliate by Country of UBO, 1990

[Millions of dollars]

	All countries	Canada	Europe						Latin America and Other Western Hemisphere	Africa	Middle East	Asia and Pacific			United States
			Total	Of which—								Total	Of which—		
				France	Germany, Federal Republic of	Netherlands	Switzerland	United Kingdom					Australia	Japan	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
All industries	100674	10541	61430	7476	17058	6580	4926	13225	7767	(D)	5173	94725	860	87712	(D)
Petroleum	18842	1321	7805	(D)	(D)	(D)	(D)	(D)	(D)	0	(D)	148	(D)	68	0
Petroleum & coal prods. manuf. .	9703	(D)	6140	(D)	0	(D)	0	(D)	(D)	0	(D)	(D)	(D)	0	0
Other	9139	(D)	1665	(D)	(D)	(D)	(D)	0	(D)	0	(D)	(D)	0	68	0
Manufacturing	45107	5723	22616	3551	6456	2554	2340	4980	(D)	(D)	66	15342	419	13985	(D)
Food and kindred products	2400	617	1350	152	29	29	25	941	(D)	(D)	0	408	8	91	0
Beverages	588	(D)	76	(D)	(D)	0	0	(D)	(*)	0	0	(D)	4	10	0
Other	1012	(D)	1275	(D)	(D)	29	25	(D)	(D)	(D)	0	(D)	4	81	0
Chemicals and allied products ..	0076	(D)	6512	319	2476	304	1102	1963	(D)	0	(D)	237	1	236	(*)
Industrial chemicals	6084	(D)	4177	(D)	2351	(D)	47	(D)	0	0	0	(D)	0	112	(*)
Drugs	2005	0	1721	9	(D)	0	1023	(D)	(D)	0	(D)	(D)	0	41	0
Soap, cleaners, & toiletries .	343	2	310	(D)	23	(D)	(D)	(D)	1	0	(*)	30	0	30	0
Other	365	2	303	(D)	(D)	6	(D)	179	5	0	0	54	1	53	(*)
Primary and fabricated metals ..	5020	1502	1772	379	595	28	169	195	(D)	(D)	6	1100	(D)	808	0
Primary metal industries	3060	(D)	885	(D)	217	0	(D)	(D)	(*)	(D)	0	929	(D)	674	0
Ferrous	1032	123	360	(D)	138	0	4	(*)	(*)	0	0	549	(*)	530	0
Nonferrous	2027	(D)	525	(D)	79	0	(D)	(D)	0	(D)	0	301	(D)	144	0
Fabricated metal products	1161	(D)	887	(D)	370	20	(D)	(D)	(D)	(*)	6	171	35	134	0
Machinery	16947	797	0673	1549	2365	(D)	680	780	(D)	(D)	(D)	7205	(D)	6575	20
Machinery, except electrical .	7879	(D)	2319	(D)	574	22	(D)	420	(D)	(D)	(D)	5215	6	4993	19
Computer & office equip. ...	4450	(D)	449	(D)	1	2	(D)	(D)	(D)	0	(D)	3803	0	3701	0
Other	3429	(D)	1870	26	573	20	246	(D)	0	(D)	1	1412	6	1292	19
Electric & electronic equip. .	9068	(D)	6354	(D)	1790	(D)	(D)	360	1	0	(D)	1990	(D)	1583	1
Audio, video, & comm.	4704	(D)	3476	(D)	(D)	(D)	2	(D)	0	0	(D)	543	1	487	1
Electronic components	2044	11	905	36	663	3	8	171	1	0	0	1126	2	848	(*)
Other	2320	27	1972	68	(D)	6	(D)	(D)	0	0	0	321	(D)	247	(*)
Other manufacturing	11864	(D)	4310	1151	991	(D)	363	1100	(D)	12	(*)	6391	56	6274	(D)
Textile products and apparel .	392	(D)	241	44	91	24	2	37	25	0	0	03	0	82	(D)
Lumber and furniture	163	43	94	15	23	0	2	9	0	0	0	27	0	27	0
Paper and allied products	803	446	294	(*)	66	1	(D)	(D)	(D)	0	0	(D)	0	(D)	0
Printing and publishing	195	51	120	0	27	9	2	71	3	0	0	(D)	0	15	(D)
Newspapers	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0
Other	195	51	119	0	27	9	2	71	3	0	0	(D)	0	15	(D)
Rubber products	1046	20	(D)	(D)	(D)	(D)	6	9	0	0	0	(D)	0	(D)	0
Misc. plastics products	594	(D)	107	10	(D)	2	12	11	3	0	0	(D)	(*)	100	0
Stone, clay, & glass products	1035	13	785	365	169	(D)	65	(D)	15	0	0	222	(D)	183	0
Transportation equipment	5820	(D)	(D)	466	235	(D)	6	212	0	0	(*)	4762	0	4753	(*)
Motor vehicles & equipment .	5315	(D)	(D)	(D)	210	0	6	78	0	0	0	(D)	0	4753	0
Other	504	1	(D)	(D)	17	(D)	0	134	0	0	(*)	(D)	0	0	(*)
Instruments and related prods.	1034	(*)	862	127	173	5	107	300	0	12	0	160	(*)	159	0
Other	779	(D)	436	(D)	6	5	(D)	199	(D)	0	0	259	(D)	238	0
Wholesale trade	113439	3055	29564	3543	10934	1042	1359	5204	1962	(D)	(D)	78247	50	73373	140
Motor vehicles and equipment ...	45733	(D)	11720	(D)	7795	3	0	(D)	(D)	0	0	33720	0	32274	(D)
Professional & commer. equip. ..	7995	(D)	027	21	373	104	48	120	(D)	0	42	7055	0	6790	(*)
Metals and minerals	12143	1132	3997	761	908	59	(D)	918	(D)	(D)	0	6350	45	5871	0
Electrical goods	19192	307	642	(D)	108	11	78	79	57	0	(*)	10187	0	17007	0
Machinery & equipment	10385	122	3018	116	021	254	454	692	121	(*)	27	7087	0	6825	10
Other durable goods	4499	76	1460	244	93	(D)	367	170	311	0	0	2653	0	2552	0
Groceries and related products .	2922	(D)	1391	(D)	(D)	(D)	6	558	487	0	157	570	0	276	(D)
Farm product raw materials	3572	2	2295	848	(D)	17	255	(D)	98	0	0	1177	0	(D)	0
Other nondurable goods	6998	966	4215	725	685	202	(D)	1469	(D)	0	(D)	1440	13	(D)	(*)
Retail trade	1937	(D)	998	46	(D)	(D)	(D)	(D)	(D)	0	(D)	273	(*)	236	3
General merchandise stores	348	(D)	(D)	3	4	(D)	0	59	0	0	0	35	0	18	0
Food stores	107	(D)	(D)	1	(D)	0	0	2	0	0	0	2	0	1	0
Apparel and accessory stores ...	517	(D)	373	26	7	(D)	(D)	142	(D)	0	0	79	(*)	68	1
Other	964	16	421	15	(D)	(D)	35	(D)	(D)	0	(D)	157	0	148	3
Finance, except banking	4	0	4	4	0	0	0	0	0	0	0	(*)	0	(*)	0
Insurance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Real estate	2	1	(*)	0	(*)	0	0	0	0	0	0	1	0	1	0
Services	389	15	259	(D)	5	2	0	82	10	0	6	99	(D)	36	(*)
Hotels & other lodging places ..	3	3	(*)	(*)	0	0	0	0	(*)	0	0	(*)	0	(*)	0
Business services	161	12	(D)	(D)	0	2	0	26	2	0	5	(D)	(D)	(*)	(*)
Computer & data proc. serv. ..	28	12	5	1	0	2	0	2	0	0	5	6	0	0	(*)
Other business services	133	(*)	(D)	(D)	0	(*)	0	24	2	0	0	(D)	(D)	(*)	0
Motion pictures	83	0	(D)	0	0	0	0	(D)	7	0	0	(D)	0	(D)	0
Engineering & arch. services ...	60	0	58	0	5	0	0	(D)	0	0	0	2	0	(D)	0
Account., resch. & mgmt. serv. .	1	0	1	(*)	(*)	0	0	(*)	0	0	0	(*)	0	(*)	0
Health services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other services	80	(*)	79	4	0	0	0	7	0	0	1	(*)	0	(*)	0
Other industries	953	(D)	182	72	24	1	13	65	0	(*)	(D)	614	(D)	14	0
Agriculture, forestry, & fish. .	37	(D)	16	0	1	0	(D)	2	0	0	(D)	(*)	0	0	0
Mining	327	(D)	137	(D)	13	1	0	59	0	(*)	0	(D)	(D)	1	0
Coal	(D)	(D)	1	0	0	1	0	0	0	0	0	0	0	0	0
Other	(D)	(D)	136	(D)	13	0	0	59	0	(*)	0	(D)	(D)	1	0
Construction	(D)	2	20	1	10	0	(D)	3	0	0	0	(D)	(*)	3	0
Transportation	(D)	(*)	(D)	0	(*)	0	0	2	0	0	0	(D)	(D)	10	0
Communication & pub. utilities .	30	(D)	(D)	(D)	0	0	0	(*)	0	0	0	0	0	0	0

Table 68.--Sales of Services to Foreigners by Affiliates,
by Industry of Affiliate, 1987-90
[Millions of dollars]

	1987	1988	1989	1990
All industries	4431	6032	7943	9259
Petroleum	374	737	705	750
Petroleum & coal prods. manuf. .	0	190	105	31
Other	374	548	600	719
Manufacturing	296	309	958	1006
Food and kindred products	(*)	(*)	3	19
Beverages	(*)	0	0	0
Other	(*)	(*)	3	19
Chemicals and allied products ..	49	75	65	69
Industrial chemicals	49	64	62	66
Drugs	(*)	(*)	(*)	(*)
Soap, cleaners, & toiletries .	(*)	11	1	1
Other	(*)	(*)	1	3
Primary and fabricated metals ..	36	29	478	50
Primary metal industries	(*)	(*)	82	7
Ferrous	0	0	0	6
Nonferrous	(*)	(*)	82	1
Fabricated metal products	35	29	396	43
Machinery	183	163	280	742
Machinery, except electrical .	12	78	81	226
Computer & office equip. ...	11	50	64	205
Other	1	28	17	21
Electric & electronic equip. .	171	86	199	516
Audio, video, & comm.	45	47	50	61
Electronic components	17	19	50	41
Other	109	19	98	414
Other manufacturing	28	41	132	127
Textile products and apparel .	2	3	1	(*)
Lumber and furniture	(*)	(*)	(*)	(*)
Paper and allied products	11	1	2	(*)
Printing and publishing	1	21	23	33
Newspapers	0	16	17	15
Other	1	5	6	18
Rubber products	4	5	5	24
Misc. plastics products	3	8	5	(*)
Stone, clay, & glass products	0	(*)	5	17
Transportation equipment	3	2	3	18
Motor vehicles & equipment .	0	1	1	15
Other	3	2	3	3
Instruments and related prods.	5	1	87	35
Other	(*)	(*)	(*)	(*)
Wholesale trade	149	214	243	463
Motor vehicles and equipment ...	15	31	29	42
Professional & commer. equip. ..	10	12	11	24
Metals and minerals	7	21	9	26
Electrical goods	37	42	77	226
Machinery & equipment	50	54	86	121
Other durable goods	(*)	4	(*)	1
Groceries and related products .	14	19	5	10
Farm product raw materials	3	18	20	1
Other nondurable goods	12	13	5	12
Retail trade	11	31	18	30
General merchandise stores	(*)	(*)	1	14
Food stores	0	(*)	0	0
Apparel and accessory stores ...	2	1	(*)	(*)
Other	9	29	17	16
Finance, except banking	683	783	756	1227
Insurance	94	1140	408	401
Real estate	111	146	99	359
Services	1640	1453	2109	2247
Hotels & other lodging places ..	102	150	217	327
Business services	251	240	839	445
Computer & data proc. serv. ..	130	105	211	209
Other business services	121	135	628	236
Motion pictures	423	360	401	896
Engineering & arch. services ...	535	297	422	295
Account., resch. & mgmt. serv. .	236	303	182	209
Health services	32	3	4	5
Other services	60	101	43	71
Other industries	1075	1218	2649	2775
Agriculture, forestry, & fish. .	(*)	4	18	3
Mining	5	4	18	26
Coal	3	2	1	1
Other	2	1	17	24
Construction	23	16	21	20
Transportation	992	1157	2557	2699
Communication & pub. utilities .	56	38	34	28

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